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## Inside Dope

By GEORGE  
F. TAUBENECK



Learn to live and laugh —  
thus delay your epitaph

**Stories of the Week**  
Quirk of Human Nature  
Serviceman's Nightmare  
Definition of an Expert  
Out of Our Mailbag  
Let's Be Sensible  
And Soon We'd Be  
Hip-Deep  
Last Laughs

### Stories of the Week

Suzie brought home her college roommate, a gorgeous blonde. That Vassar duplicate of Marilyn Monroe was introduced to Suzie's great-grandfather.

"Marilyn," Suzie introduced, "Grandpa's in his nineties!"

"My early nineties," great-grandfather amended, with a gleam in his eye.

Consumers were questioned.

"What was the dominant thing that led you to buy our product?" was the lead-off question.

"The dominant thing that made me buy your product," replied a deadly-serious customer, "was my wife."

### Quirk of Human Nature

Everybody is aware that standees in street cars and city buses resist moving to the rear, where they'd have more room. Nobody knows why . . . "just human nature."

A similar phenomenon puzzles commercial travelers (salesmen and other businessmen who travel to earn their living).

From 15 to 20 minutes before a train arrives at its destination, passengers crowd toward the exit, painfully carrying their luggage, and stand in jammed-up discomfort. Likewise, soon as a plane stops, same deal.

"Old pro" travelers remain comfortably in their seats, don't make their move to leave until there are only two or three standees left in the aisle, and get out of the conveyance within seconds of the earliest eager beavers to clog the exit.

Many seasoned commercial travelers enjoy 40 winks of sleep by defying this unreasonable Law of Human Nature. "Dope" figures this extra time enables him to read at least one more book a month.

What's WITH people, anyway?

### Serviceman's Nightmare

Rush call to a New York apartment house (Park Ave. and 49th) posed a new problem to an air conditioning serviceman.

(Concluded on Page 14, Col. 1)

## Future Course of Home Conditioning Systems Debated at Chicago Conference

By C. Dale Mericle

CHICAGO — Householders better forget about an atomic furnace for the home, but solar heating is a possibility that shouldn't be discounted, it was brought out at the first technical conference staged by the National Warm Air Heating & Air Conditioning Association at the Edgewater Beach hotel here May 24 and 25.

There may be important changes in the immediate future, however, as electric and gas utilities gird themselves to battle for the year-round air con-

ditioning business, and the association took official cognizance of an industry-wide situation when its board of trustees authorized President G. W. Denges, who is vice president of the Williamson Co., to "appoint a committee to investigate testing and rating of air conditioners," he announced.

"The committee will cooperate with other interested groups," he said.

The association numbers some 3,000 members, including manufacturers, wholesalers, and con-

(Concluded on Page 47, Col. 1)

Detailed accounts of the various technical papers presented at the conference will appear in future issues of Air Conditioning & Refrigeration News.

ditioning business, it was predicted. It could be the heat pump vs. the gas conditioner using either the absorption system or a gas engine-driven compressor.

Present-day problems in various aspects of air conditioning and heating were aired in other

## See U. S. Moves Easing Credit

WASHINGTON, D. C. — Recent moves by the Federal Reserve System are interpreted as meaning that starting in June, more money will be available for general credit purposes.

The action will come through a series of "policy" moves that will channel more funds into banks for credit purposes. This will probably be done through what is known as "open market operation," the purchases and sales of Treasury securities, which in turn determine to a great extent the amount of funds that banks have available for lending purposes.

Some bankers are quoted as saying that certain policies have already resulted in considerable increases in the amount of money available for borrowing.

## 200,000 Residential System Sales?

**Airtemp Central System  
Sales Up 50% over '55**

DAYTON — "To date for '56, our residential air conditioning sales are running more than 50% ahead of the same period last year," H. M. Carnahan of the Airtemp Div., Chrysler Corp., stated recently.

Carnahan, Airtemp residential air conditioning and heating sales manager, added: "If other industry members are faring as well as Airtemp, the predicted sale of 150,000 central cooling systems this year should be met and exceeded by a good margin."

"In working with merchant builders, our accounts in recent

(Concluded on Page 2, Col. 3)

## Crosley, Bendix To Drop Room Units, Some Other Items

CINCINNATI — Room air conditioners, chest-type freezers, water heaters, and garbage disposers will be dropped from the Crosley and Bendix line, Chester G. Gifford, president of the Crosley and Bendix home appliance division of Avco Mfg. Corp. announced recently.

All of these appliances are currently made for Crosley by other manufacturers.

Said Gifford, "We are going

(Concluded on Back Page, Col. 5)

## Westinghouse Ups Anderson, Stephenson

MANSFIELD, Ohio — The appointment of John J. Anderson as manager of the Westinghouse major appliance division was announced here recently by John W. Craig, Westinghouse vice president and general manager of the electric appliance divisions.

Simultaneously, S. J. Stephenson was named successor to Anderson as manager of the portable appliance division. Both appointments are effective immediately, and both men will report directly to Craig.

In his new capacity, Anderson

(Concluded on Page 4, Col. 3)

## 50% Rise over '55 In Carrier Home Units

SYRACUSE, N. Y. — "Another record breaking year for central air conditioning in homes is indicated by 1956 sales to date," according to Cloud Wampler, chairman of the board of Carrier Corp.

He reaffirmed his prediction made last December that approximately 200,000 residential installations would be made during the present year.

"In view of the current level of orders, there can be little question that the number of home systems purchased during the year will reach this figure—

(Concluded on Page 4, Col. 1)

## Dispute Still Holds Up Mack Plant Cooling

PLAINFIELD, N. J. — As this issue of the NEWS goes to press, work on the planned installation of air conditioning in the Mack Mfg. Co. plant here was still held up because of a labor union jurisdictional dispute involving a steamfitter local of the United Association, and plant maintenance workers at Mack Mfg. Co. who are members of a UAW-CIO union.

Union officials showed considerable reluctance to discuss the dispute, but negotiations

(Concluded on Back Page, Col. 1)

## Jeffrey To Head Kelvinator Div.; Travis Sales Mgr.

DETROIT — Election of Walter Jeffrey to vice president and general manager and Homer L. Travis to vice president—sales, both of Kelvinator Div., was announced May 31 by George Romney, president and chairman of the board of American Motor Corp.

The appointment follows recent action by the board of directors elevating Bernard A.

(Concluded on Page 2, Col. 5)

## Oil Heat and Air Conditioning Show June 11-15

NEW YORK CITY — Held for the first time in New York City's new Coliseum, the 21st National Oil Heat and Air Conditioning Exposition will run from June 11 through 15.

The exposition will coincide with the 34th annual OHI convention to be conducted in the Park Sheraton hotel, just a few blocks away from the Coliseum.

Attracting 150 exhibitors of whom 34 serve the air conditioning as well as heating fields, the exposition will be staged on

(Concluded on Page 2, Col. 5)

## Amana Buys Name, Tools Of Deepfreeze

**New Div. Will Market Chest-Type Freezers with Present Distributors**

AMANA, Iowa — Amana Refrigeration, Inc. acquired on June 1 the trade name, all tools, dies, and patents of Deepfreeze Appliance Div. of Motor Products Corp. which ceased operations March 31, it was announced by George C. Foerstner, executive vice president of Amana.

At the same time, Foerstner announced plans for the establishment of the Deepfreeze Div. of Amana, which will produce and market a new line of chest freezers to complement the firm's current line of upright freezers.

The new Deepfreeze chest freezers will be marketed through Amana's present distributors, Foerstner emphasized. Amana engineers and designers will be at work immediately, he added, preparing the new Deepfreeze chest freezer line for the market.

According to terms of the purchase agreement, Amana also

(Concluded on Page 47, Col. 3)

## New Firm Buys Commercial Phase Of Jordon Co.

PHILADELPHIA — Announcement has been made here of the formation of Jordon Commercial Refrigerator Co. which has acquired the trade name, designs, patents, and tooling of the commercial refrigeration products of Jordon Refrigerator Co., a subsidiary of the U. S. Air Conditioning Corp.

Executives of the new company announced that administrative offices and manufacturing facilities have been established in Philadelphia at 2200

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## BEHIND PAGE ONE . . .

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40

### Servicing Auto Air Conditioners

46



**New Jordon Firm --***(Concluded from Page 1)*

Kennedy St., and that uninterrupted production would continue on the complete line of commercial refrigeration products.

Additional items would be added to the line, management advised, including walk-in coolers and freezers, low temperature display equipment, and other items in the restaurant and food service equipment fields.

Production is being carried on in a modern one-story plant of 150,000 sq. ft., fully equipped to operate on straight line production methods, it was noted.

The sales division of the company will be headed by Alfred P. Levin, who has been associated with the Jordon company since shortly after its inception over 10 years ago.

The present field sales organi-

zation will be maintained intact and will be strengthened to produce an increased volume of sales, the announcement said.

An anticipated 50% increase in production is being planned and a completely integrated advertising and sales promotion program is being planned to help strengthen the national dealer organization.

The new management, Levin advised, has many years of experience in the commercial refrigeration field and the activities of the new company will be devoted exclusively to the design, manufacture, and marketing of commercial refrigeration products.

**Temple Finishes Cooling**

JACKSONVILLE, Fla. — The educational building of the Baptist Temple here is now being air conditioned, making the church air conditioned throughout, according to the Rev. Robert Witty, pastor.

**Airtemp Sales --***(Concluded from Page 1)*

weeks have closed some really sizable contracts for year-round air conditioning. Eleven contracts, calling for both heating and cooling equipment, cover projects in excess of 500 homes each.

"Considering the important fact that home construction has not as yet reached summer peak in many areas, these early season sales are very welcome signs. If builders get good co-operation from the weatherman, '56 residential cooling sales could surprise everyone.

"In analyzing our residential sales through April, we find that about 95% involve air-cooled equipment and 5% water cooled.

"Therefore, when speaking of the home market we can no longer talk about a trend to waterless air conditioning.

Rather than a trend, it is now a fact that builders and homeowners prefer waterless-type air conditioning.

"Another particularly surprising development is that the highest sales volume on home project air conditioning is now being reported out of the northeastern states. Previously, the south and southwest were the volume markets for project business.

"Looking at the same figures, we find that about 75% of the cooling and heating equipment is going into new homes, 25% to the existing home market.

"The revision could result from the market impact of the new low-cost central air conditioning system introduced by Airtemp in April.

"I wouldn't want to guess as to what the final residential sales score will be for the industry. But, based on through-April activity, I anticipate a healthy increase over last year."

**OHI Exposition --***(Concluded from Page 1)*

the 70,000-sq. ft. third floor of the Coliseum.

**EXPOSITION HOURS**

On the first four days, the exposition will be open from 1 to 10 p.m. On the last day, Friday, it will open at 1 p.m. and close at 6 p.m.

Registration is free to all members of the industry, architects, engineers, and others who can buy or specify equipment. Registration is on the first floor of the Coliseum.

**AIR CONDITIONING PANEL DISCUSSION**

An hour's panel discussion on air conditioning will highlight the OHI's dealer management conference on Thursday morning. The panel will consist of two manufacturers, two successful dealers, and a consultant.

On Monday, June 11, OHI will hold its annual meeting and a series of business meetings by various committees and groups within the association.

Tuesday will offer an engineering technical conference starting at 10 a.m. and an invitational conference for manufacturers of equipment and accessories at 10:30 a.m.

Wednesday morning will be devoted to the first dealer management conference starting at 9:30 a.m. and an invitational commercial industrial symposium for architects, engineers, and manufacturers at 10:30 a.m.

Thursday will feature the second dealer management conference—including the session on air conditioning—and the OHI annual luncheon.

Convention registration is \$1 per person.

**LIST OF EXHIBITORS**

Among the exhibitors at the exposition (with booth number in parentheses) are: American Standard Air Conditioning Div. (224), Bacharach Industrial Instrument Co. (152), Bell & Gossett Co. (311-14), Burnham Corp., Boiler Div. (247-49), Bryant Div., Carrier Corp. (133-34).

Crane Co. (534), Davis Engineering Corp. (215), Delavan Mfg. Co. (544), Delta Heating Corp. (236), Detroit Controls Corp. (223), Dole Valve Co. (341-42), Emerson Electric Co. (343), Emerson Radio & Phonograph Corp. (346-47), Eureka Williams Div., Henney Motors Co., Inc. (137-40).

Fedders-Quigan Corp. (115), Field Control Div., H. D. Conkey & Co. (246), General Controls Co., Perfex Div. (244), General Electric Co., Schenectady (154-57), General Electric Co., Home Heating & Cooling Dept. (411-12).

The Heil Co. (542), Minneapolis-Honeywell Regulator Co. (511-15), C. A. Olsen & Co. (527-29), J. V. Patten Co. (349-50), Penn Boiler & Burner Mfg. Co., Quiet May Div. (315), Penn Controls, Inc. (123-24).

Rheem Mfg. Co. (423-24), Richmond Radiator, Heating Products Div. (548), Skuttle Mfg. Co. (145), Slant-Fin Radiator Corp. (413), Stewart-Warner Corp., U. S. Machine Div. (232), Thatcher Furnace Co. (303-06), Torrington Mfg. Co. (129-30), Vaco Products Co. (345), and White-Rodgers Electric Co. (425-28).

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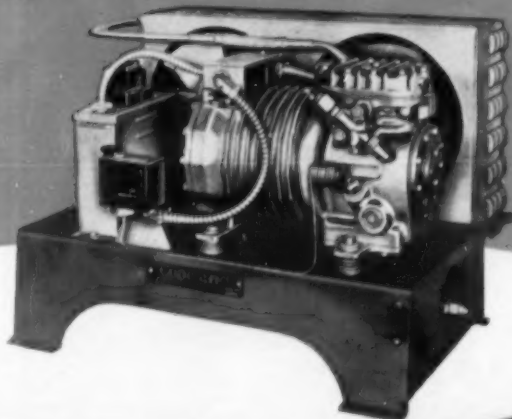
Service like that keeps the customers of over 500 manufacturers of display cases, air conditioners, coolers and other products happy with their Copeland-powered units . . . and ready to purchase more of your products when the need arises.



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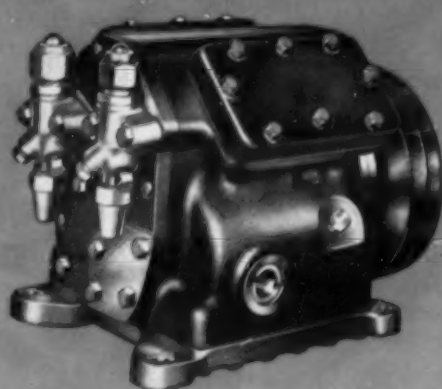
The industry leader for rugged dependability. Models for every application. Freon-12 in ¼ to 7½ H.P.; Freon-22 in 2 to 10 H.P. (High Temperature Only.)



## COPELAWELD

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provides heavy duty performance at low current consumption. Freon-12, ½, ¾ and 1 H.P. Freon-22 models, ½ through 1¼ H.P.



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SINCE 1918

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REFRIGERATION

WRITE FOR SPECIFICATION AND PERFORMANCE DATA

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## Carrier Rise--

(Concluded from Page 1, Col. 3)  
at a total installed price of nearly \$1½ billion," Wampler said.

"As a measure of the rapid growth of the residential market, this compares with about 125,000 installations sold during 1955 for approximately \$187 million."

He reported that industry sales of residential conditioning equipment to date are "substantially higher" than for the comparable period last year.

As one indication, Wampler noted that orders for year-round, conversion, and summer "Weathermakers" produced by Carrier's Unitary Equipment Div. are running 50% ahead of the first four months of 1955.

Wampler said an analysis of the company's residential business this year also showed that

three out of every four Weather-maker home installations—including year-round, conversion, and summer air conditioning equipment—are air cooled.

Discussing customer reaction to central air conditioning, Wampler reported that a just-completed survey of 5,000 homeowners having air conditioning revealed that 90% of those polled felt it made their house more saleable. Respondents were virtually unanimous in agreeing that if they had the choice again they would buy air conditioning.

Eight out of 10 said that cooling costs did not exceed their expectations—or were actually less than anticipated.

As to reasons for buying, "comfort" and "climate conditions" accounted for a majority (62%) of owner comments. "Health," "previous experience," and "cleanliness" were also cited as major buying factors.



S. J. Stephenson



J. J. Anderson

## Westinghouse Names--

(Concluded from Page 1, Col. 3)  
will have full responsibility for the engineering, manufacturing, sales, and other operations of the major appliance division.

He succeeds R. J. Sargent, who was appointed to the post of general manager of marketing and distribution for the Westinghouse consumer products divisions at Pittsburgh.

Headquarters for the major appliance division will remain here at Mansfield. The division

also includes manufacturing plants at Columbus and Newark, Ohio.

Anderson has been associated with Westinghouse since 1937, when he joined the company's graduate student course at Mansfield, specializing in air conditioning.

In 1942, he was assigned ordnance work, handling products made by Westinghouse for the Army Ordnance Department. Anderson was assigned to the electric appliance division's New York office in 1944 as supervisor of refrigeration specialties. In 1945 he returned to Mansfield as assistant manager of the division's service department.

In 1949, he was appointed merchandise manager of the household refrigeration department, and was named manager of the laundry equipment department three years later. He has been manager of portable appliances since last May.

## Burrell Heads Officers Of Dairy Group; Girton Elected Vice Chairman

BETHESDA, Md.—D. H. Burrell, Cherry-Burrell Corp., was elected chairman of the Executive Committee of the National Association of Dairy Equipment Manufacturers, as NADEM brought to a close its tenth annual meeting, May 21-23, at the Kenwood Golf and Country Club here.

Paul K. Girton, Girton Mfg. Co., was elected vice chairman.

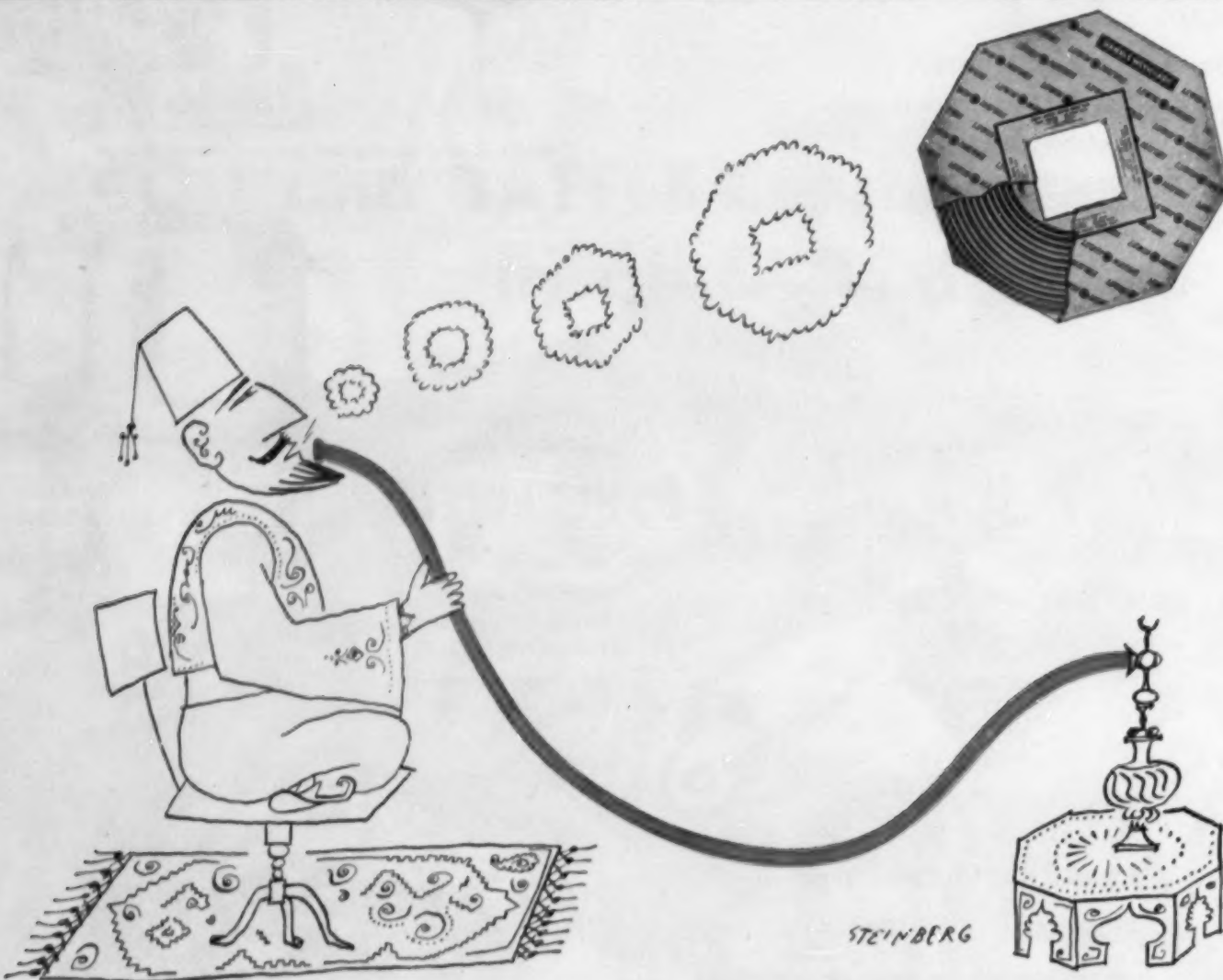
Burrell succeeds Emil M. Howe, retiring chairman of NADEM's Executive Committee and vice president of Waukesha Foundry Co., who presided during all sessions of the meeting.

Earle Slayton, Cherry-Burrell, who served as NADEM's first chairman when the organization was founded in 1946, made a major address, "Our First Ten Years," reviewing the past and pointing toward the future.

Charles M. Fistere, general counsel, spoke on the subjects of "Developments Along the Potomac" and "New and Pending Federal Legislation," it was added.

At the second general session, Dr. O. Glenn Saxon, head of the Department of Economics at Yale university, spoke on "The Current Economic and Political Outlook." This was followed by a panel discussion on the stainless steel and nickel situation. The panel was led by D. C. Buck of U. S. Steel Corp. and chairman of the AISI's Stainless Steel Committee.

At the annual business meeting, Gordon Houran of DeLaval Separator Co., Poughkeepsie, N. Y., and George Huffman of Ex-Cell-O Corp., Detroit, were elected as members of the Executive Committee. Other members of the committee are: David H. Burrell, Cherry-Burrell; Paul K. Girton, Girton Mfg.; Emil M. Howe, Waukesha Foundry Co.; and Harold Solie, of the General Dairy Equipment, Inc.



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In uniformity of product... Lewin-Mathes has achieved a standard of continuous quality control—from raw material to finished product—possible only in a completely integrated plant such as ours at Monsanto, Ill.

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What's your "pipe dream"? A new building? Improving your home? Producing a better product? If it calls for tube or pipe, be sure your architect, engineer or designer calls on Lewin-Mathes—the integrated specialists!

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pipe dream



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**PROFITS  
LOAD UP**  
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"YOU CAN SELL  
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## Retail Grocers To Convene June 10-14 In Los Angeles

LOS ANGELES—The 57th annual convention and exposition of the National Association of Retail Grocers opens Sunday, June 10 at Shrine Auditorium and Exhibition Hall here.

A food industries exhibition on two levels of the Shrine Exhibition Hall will present what is termed a "mammoth display of products and equipment," it was further noted.

During the Sunday opening session there will be a visual presentation of "The Food Store of Tomorrow," from actual building of the market with pictures and diagrams showing color, design, and layout, it was explained. Fred Hartup, store engineer, R. Leon Edgar, architect, and Norman Hanson, color expert, will be featured.

Several talks and panel discussions will revolve around food kept by refrigeration equipment in a market.

At the "Early Birds" sessions, 8:30 to 9:30 a.m., Monday, June 11 in the Shrine Auditorium, Maurice Warshaw of Grand Central Markets, Salt Lake City will discuss "Our Produce Must Sparkle."

C. G. Bowes, NARGUS meats division, will moderate a panel discussion on "Meat Promotions—The Key to Profits" at 10 the same morning in the Auditorium.

Panel members include Harold Cram, Cram's Supermarket, LaCrosse, Wis.; R. E. Cray, M&K Market, Lewiston, Idaho; and Stanley Genetti, D. Genetti & Sons, Hazleton, Pa.

Successful Departmental Operations will be the 11:30 a.m. feature in the Auditorium with second man on the program being Will Crawford, Crawford's Modern Village Markets, El Monte, Calif. explaining how to operate leased departments.

Early Birds rise early again Tuesday morning for the 8:30-9:30 Auditorium session when C. C. Precure, Precure's Red Bud Food Center, Oklahoma City, will talk on "We Sell Three Grades of Meat."

Wednesday, June 13 at 10 a.m. in the Auditorium a presentation and demonstration "There's Profit In Produce . . . If . . ." will be moderated by Lee S. Thomson, Jr., NARGUS produce division director.

Convention closes after the major prize drawing at 12:15 the afternoon of Thursday, June 14.

## Catlett Construction Submits Low Bid for Cooled Hospital Wing

KNOXVILLE, Tenn.—Catlett Construction Co. has submitted the low bid for building the new 60-bed west-wing addition at St. Mary's hospital, and the contract was expected to be let at an early date.

The new wing, to be used for chronically ill patients, will be entirely air conditioned.

According to Sister Mary Annunciata, St. Mary administrator, the wing will cost somewhere between \$600,000 and \$1,000,000.

## Husmann Strikers Return after 22 Days Sign One-Yr. Contract

ST. LOUIS—A 22-day strike at the Husmann Refrigerator Co. plant ended when 1,250 production workers returned to their jobs following the signing of a new one-year contract.

The strike, first in Husmann's history, began May 1 after the old labor contract expired.

Nine AFL unions represent the Husmann workers.

## N.O. Nelson Names Feiss Assistant to President

ST. LOUIS—Appointment of George J. Feiss, Jr. as assistant to the president of N. O. Nelson Co. was announced recently by Keith Munroe, president.

Feiss was formerly executive vice president and sales manager of Leader Electronics, Cleveland, manufacturer of electric components and motor controls.

In his new position, Feiss will direct merchandising and marketing for the 80-year-old com-

pany, one of the nation's largest wholesalers of plumbing, heating, air conditioning, refrigeration, and industrial supplies and equipment.

Prior to joining Leader Electronics in 1951, Feiss was president of Porter Equipment Co., Cleveland, regional distributor of major appliances and kitchen equipment. He was previously affiliated with Sears Roebuck & Co. in merchandising and sales capacities.

Feiss has also served as an industrial engineering consultant to a number of companies in the Cleveland area.

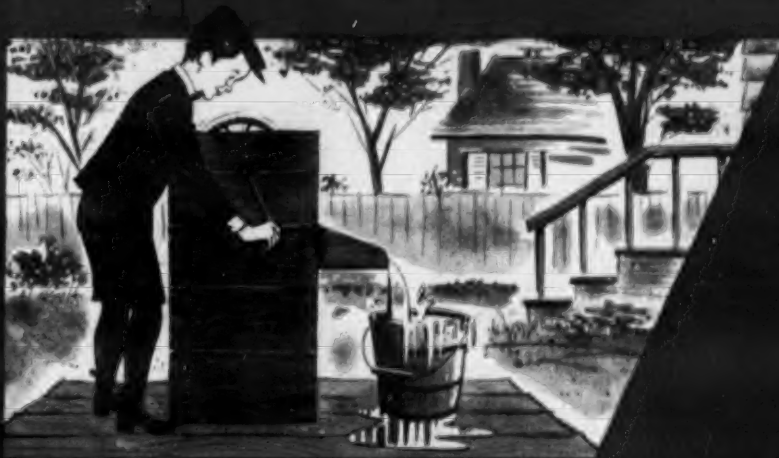
## Coleman Constructs West Coast Warehouse

WICHITA, Kan. — Coleman Co., Inc., manufacturer of residential air conditioning and heating equipment here, announces construction of a \$400,000 Los Angeles warehouse and office building.

Air conditioned office space of 3,500 sq. ft. will be at the front of the 34,500-sq. ft. structure, located at Davis Ave. and Flo-tilla St. in the central manufacturing district, according to W. C. Cartwright, branch manager.

1906

A popular engineering application at the beginning of the century . . . running water for the home, at a turn of the pump handle. It was in 1906 that the first Brunner-engineered product appeared.



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There's a Brunner Condensing Unit for every refrigeration job, large or small. OPEN-TYPE UNITS range from 1/2 H.P. through 100 H.P. BRUNNER-METIC Semi-Hermetic Units from 1/4 H.P. through 3 H.P.



## Servel Improves During Ice Box Deaths Bring First 6 Mos; Sees Upped Sales In Hot Weather

EVANSVILLE, Ind.—Operations of Servel, Inc., for the first half of the current fiscal year ended April 30, showed an improvement of \$1,162,000 over the corresponding period last year, according to a report recently by Louis Ruthenburg, chairman of the company's board, and Duncan C. Menzies, president.

The company's loss for the first six months of 1956 was \$752,000 (before a \$351,000 provision for contingencies), as compared with a loss of \$1,914,000 in 1955.

Total sales for the first half of the current fiscal year were \$23,286,000—or \$979,000 less than last year's sales for the six-month period. This shrinkage was attributed in part, it was explained, to the fact that the company's new refrigerator and room air conditioner models were introduced at a later date this year than last. Defense sales declined because of a strike in the plant of Servel's principal prime contractor.

Servel had a backlog of \$4,463,000 in defense orders as of April 30, it was noted.

Improved operations are anticipated in the third quarter as the result of increased sales during the hot-weather selling season ahead, and important savings through a continuing cost reduction program, it was disclosed.

## 6 Sales Appointments Announced by Gibson

GREENVILLE, Mich.—Several changes in Gibson Refrigerator Co.'s sales organization were made recently, according to W. C. Conley, vice president-sales.

A. J. Grewe, formerly divisional sales manager, was promoted to manager of range sales.

E. K. Herring has been assigned as Gibson's divisional sales manager for Alabama, Mississippi, Louisiana, Arkansas, and western Tennessee.

Robert L. McGowen was appointed divisional sales manager for the Cleveland, Akron, Ohio, Pittsburgh, Wheeling, W. Va., Rochester, Syracuse, and Buffalo, N. Y. area.

G. A. Lubenow, formerly divisional sales manager for middle Atlantic states, was transferred to the same post in the midwest with headquarters in Chicago. He will cover Gibson's distributors in Illinois, Wisconsin, Minnesota, Iowa, and North and South Dakota.

P. J. Morahan, will assume divisional sales manager's duties for the middle Atlantic states from Philadelphia to Baltimore and Washington, D. C.

Dean Hill, new manager of Gibson Refrigerator Sales Corp. of Chicago, was previously vice president of Chauncey Distributors, Chicago.

## Offices To Be Cooled

JEFFERSON CITY, Mo.—Missouri Department of Health offices in the State Office building here, are to be air conditioned.

way Beach near the borough of Brooklyn.

Police issued a summons to Harry Greenberg of Brooklyn, owner of the box. They also issued summonses to owners of three other boxes in the neighborhood abandoned with their doors still on.

On the same day, a six-year-old boy and his dog were found suffocated in an ice chest in Hutchinson, Kan. The dog's body covered the only air vent in the chest.

## Whirlpool-Seeger

## Votes 3-Mo. Dividend 15-Hr. Day, 7-Day Week

ST. JOSEPH, Mich.—Directors of Whirlpool-Seeger Corp. have declared quarterly cash dividends of 85 cents per share on the 4¼% cumulative convertible preferred stock and 35 cents per share on the common stock outstanding, it was announced recently by Walter G. Seeger, chairman of the board.

## Frigidaire Dealer Has

## Votes 3-Mo. Dividend 15-Hr. Day, 7-Day Week

JACKSONVILLE, Fla.—Jacksonville Refrigeration Co., this city's oldest Frigidaire dealer, recently opened "The Frigidaire Corner" at 5960 Beach Blvd.

It will be open seven days a week, from 7 a.m. until 10 p.m.

"Our 35 W. Monroe St. store will remain open until the expiration of our lease."

# The Refrigeration Industry



For more information about products advertised on this page use Information Center, page 32.



## Servel Names Phillips Supply 'Operation Home Improvement' Film Strip Now Available to Contractors, Dealers, Lenders

EVANSVILLE, Ind.—Phillips Supply Co., of New Orleans, has been appointed distributor of Servel appliances for a large trading area covering central and southern Louisiana and Mississippi.

The announcement was made by Richard S. Testut, vice president of home appliance sales of Servel, Inc.

NEW YORK CITY—More than 350 prints of Operation Home Improvement film strip intended for showing at local meetings of contractors, dealers, lenders, and others interested in launching industry-wide local improvement campaigns have been distributed, according to John R. Doscher, executive director of the group. OHI committee chairmen in many communities have called the film presentation a highly effective tool for building enthusiasm in home improvement. The strip is available for \$10 from OHI headquarters, 10 Rockefeller Plaza, New York City 20.

## Welbilt Profit Hits \$427,445 for Quarter

MASPETH, N. Y.—Welbilt Corp. reports a net profit of \$427,445 after taxes for the quarter ended March 31. This equals, after preferred dividends, 10 cents a share on 4,198,007 shares of common stock outstanding. Sales for the period amounted to \$4,868,791. The company was known as Detroit-Michigan Stove Co.

## C. W. Martin Succeeds G. L. Rees as President Of Ranney Refrigerator

GREENVILLE, Mich.—Ranney Refrigerator Co. has named Charles W. Martin as president, succeeding G. L. Rees who has retired.

Martin was formerly vice president and general manager of the Norge Div. of Borg-Warner Corp. at Muskegon, Mich. He has been associated with the Norge Div. for the past 22 years.

Prior to joining the Norge organization, he had been associated with Gibson Refrigerator Co., Montgomery Ward & Co., and Universal Cooler Corp.

## Gibson Announces 2 New Distributors

GREENVILLE, Mich.—Gibson Refrigerator Co. has announced the appointments of Associated Merchandiser's, Inc., Salt Lake City, and San Joaquin Distributing Co., Fresno, Calif., as distributors of its electric ranges, refrigerators, food freezers, and window air conditioners.

Associated Merchandiser's will cover the Salt Lake City and Boise, Idaho trading areas, according to W. C. Conley, vice president in charge of Gibson sales. Harold C. Kimball is president and treasurer of the firm and M. A. Kayser is vice president.

W. C. Hall and Alastair Simpson are partners in San Joaquin Distributing, which will cover the Fresno area.

## Amana Appoints New Distributors

AMANA, Iowa—Two new distributors have been named by Amana Refrigeration, Inc., it was announced by J. A. Rishel, Jr., general sales manager.

They are Allen Distributing Co., Providence, R. I., and Fraker Heating & Equipment Co., Knoxville, Tenn.

Allen Distributing will distribute Amana freezers, freezer-plus-refrigerators, and air conditioners throughout Rhode Island, as well as in New London and Windham counties, Conn., and Bristol County, Mass.

The Tennessee concern, directed by J. T. Fraker, president, will distribute Amana products in the Knoxville distribution area.

## Whirlpool-Seeger Names Distributor In Hawaii

ST. JOSEPH, Mich.—Electrical Distributors, Ltd., Honolulu, Hawaii, has been appointed distributor of "RCA Whirlpool" freezers and air conditioners and "RCA Estate" ranges for the territory of Hawaii, it was announced recently by Jack Sparks, general sales manager, distribution, Whirlpool-Seeger Corp.

# **Demanded It! Reynolds Invented It! REYNOLDS ALUMINUM TUBED SHEET One-Side-Flat**

(patent pending)

## **Check the Revolutionary Advantages of this Exciting New Development**

### **BETTER PERFORMANCE**

#### **—MORE CONSUMER SELLING FEATURES**

- Flat surfaces in evaporators permit direct contact with food packages, ice cube trays and other items providing heat transfer by conduction and completely eliminating any insulating air spaces. This aid to faster freezing also means a bigger consumer selling point for refrigerator and freezer manufacturers.
- Flat surfaces make it easier to defrost . . . improve drainage of water and other liquids . . . permit faster, easier, more thorough cleaning. More sales features!
- Flat surfaces permit small jars, bottles, cans and other containers to rest on smooth surface without wobbling or tipping, thus reducing possibility of spillage . . . still another good sales point.
- Flat surfaces mean no high points to concentrate wear on critical tube surfaces.
- Tubing right in the sheet routes refrigerant exactly where needed—no loss in conductivity. Tubed Sheet One-Side-Flat (two sheets of aluminum metallurgically bonded together so that the heat transfer passageways are in the sheet) is flat on one side and has the built-in tubing pattern on the other side.

### **NEW FLEXIBILITY OF DESIGN**

- Reynolds new Tubed Sheet One-Side-Flat is the only sheet with one flat side providing integral tubing in any parallel or non-parallel patterns no matter how complex! Almost any tubing pattern that can be drawn can be quickly and

economically produced in Tubed Sheet with practically unlimited circuiting possibilities.

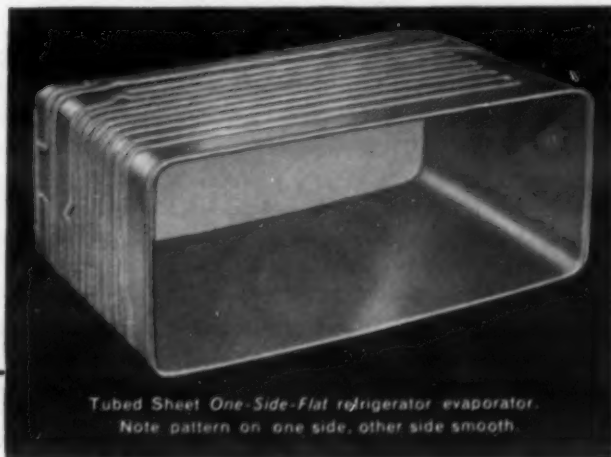
- Passageways can be flat or oval; large or small; spaced close together or apart.
- Redesigns are simplified, can be made quicker.

### **GREATER ECONOMY**

- Eliminates metal used for evaporator tubing, accumulators and receivers.
- Many connecting and assembly operations are eliminated.
- Additional tubing lengths add nothing to cost.
- Redesigning costs are much less.

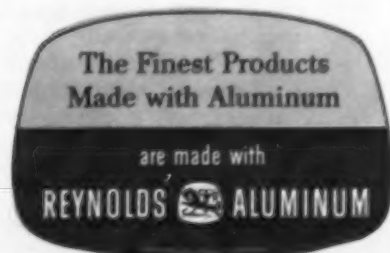
### **MORE ATTRACTIVE PRODUCT**

- Can be embossed in a decorative pattern or left smooth.
- Can be color anodized in any color desired to match color-styled refrigerator and freezer interiors.



Tubed Sheet One-Side-Flat refrigerator evaporator.  
Note pattern on one side, other side smooth.

See "Frontier", Reynolds exciting dramatic series, Sundays, NBC-TV



For details on Tubed Sheet One-Side-Flat, contact your nearest Reynolds Office or write Reynolds Aluminum Fabricating Service, 2053 So. Ninth Street, Louisville 1, Ky.

## **REYNOLDS ALUMINUM FABRICATING SERVICE**

BLANKING • EMBOSING • STAMPING • DRAWING • RIVETING • FORMING  
ROLL SHAPING • TUBE BENDING • WELDING • BRAZING • FINISHING

For more information about products advertised on this page use Information Center, page 32.



## Amana Adds Thermostat to 'Scots', Offers 1-Hp. '57 Model Room Unit Early

AMANA, Iowa—A full-capacity, 1-hp. model of its budget-priced "Scot" room air conditioner, equipped with a thermostat control to maintain desired temperatures automatically, has just been added to Amana Refrigeration's 1956 line of room air conditioners, reports E. W. Lyon, director of air conditioner sales.

At the same time it was disclosed that thermostatic controls have been made standard equipment on the Scot 1/2 and 3/4-hp. models which were introduced with the complete 1956 line of Amana air conditioners early in the year.

The 1-hp. Scot was being developed as a 1957 model, Lyon explained, but accelerated development work has made it possible



NEW 1-hp. Amana "Scot" has recently been added to the 1956 line of room air conditioners. Unit has thermostatic controls, operates on 230 v.

to introduce the model now. It is in production now and will be available in limited quantities this season.

All three models of the low-priced Scot provide cooling, dehumidification, filtration, and air circulation. With the thermostatic control, six levels of cool-

ing are readily available.

The 1-hp. model operates on 230 volts, while the 1/2 and 3/4-hp. models are for operation on the 115-volt lines only. The units are compactly constructed in a 23-in. deep flush mounting cabinet. A single vane deflector is claimed to insure no-draft cooling. All models have full-size filters and cooling coils. All the models have the same size

cabinets: 14 1/2 in. high, 25 in. wide, and 23 in. deep.

The units are constructed electrically to conform to the new National Electrical Code.

Other room air conditioners in Amana's 1956 line are the Year 'Round and the De Luxe. The company also introduced this year a Central-System air conditioner in 2 and 3 1/2-hp. models have the same size sizes.

### SPECIFICATIONS FOR THE AMANA 'SCOT' MODELS

Model No.	50-S2	75-S2	100-S356
Compressor Hp.	1/2*	3/4†	1 1/2
Fan Motor Hp.	1/15	1/15	1/4
Voltages Available	115	115	230
Cooling Wattage (Compressor plus Fan)	800	1150	1700
Air Circulation	230	280	390
Moisture Removal (pts. per hr.)	1.6	2.2	2.8
Filter Size		18 1/2 x 9 1/2 x 1 1/2 (All models)	
Height (3 models)		14 1/2" (15 1/2" including flange)	
Width (3 models)		25" (26 1/4" including flange)	
Depth	23"	23"	23"
Net Weight (lbs.)	125	131	147
Shipping Weight	155	161	177

\*For rooms up to 350 sq. ft.; †For rooms up to 500 sq. ft.; ‡For rooms up to 650 sq. ft.



DISPLAY top-of-unit is "built-in sales" talk for room air conditioner dealers, says Mitchell Mfg. Co. Workings of a room unit are demonstrated and functions pointed out.

## Built-In Sales Talk Points Out Mitchell Room Unit Features

CHICAGO—A room air conditioner display with a built-in sales talk has been developed for appliance stores by Mitchell Mfg. Co.

Graphically depicting each of the integral parts of a room air conditioner and pointing up the function of each, the display has been developed to demonstrate how an air conditioner works and the importance of its component parts.

"We got the idea for this display after talking with customers and appliance store salesmen," said Howard Haas, Mitchell vice president in charge of advertising and sales promotion.

"Most people are unfamiliar with the way an air conditioner actually works. We decided the best way to educate them and, at the same time, get our sales points across, was to show them a simplified model showing the workings of a room unit."

Haas pointed out that the Mitchell display has the added advantage of being a silent salesman as well as a guide for the retail salesman.

"If all salesmen are busy and the customer is temporarily left to shift for himself, our display helps him understand the interior construction of an air conditioner," Haas said.

The display mounts directly on the top of any Mitchell room air conditioner. It features a cut-away view of the interior of the unit. All integral parts of the air conditioner are numbered and keyed to a legend at the top of the display which identifies and tells the function of each part.

## Sutton Names Frawley General Sales Mgr. Of Distributing Co.

BALTIMORE—The appointment of Bernard M. Frawley as general sales manager for Vornado Distributing Co., Inc. has been announced by Walter Appleton, vice president.

Frawley was formerly connected with Bendix Home Appliance Div. of Avco, as regional sales manager for the mid-western division and district sales manager for the eastern division.

## ALUMINUM TUBE IN LONG COILS

## AND LONG ON



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There are many inherent advantages in the use of aluminum tube in long length coils. For instance—long length coils require less handling, less storage space, keep scrap to a minimum and reduce make-ready time on the job.

There are also inherent advantages in choosing Wolverine as your source for these coils. In the first place, Wolverine has had years of metal working experience—is as much at home in the production of aluminum as it is in copper.

Into every foot of Wolverine aluminum tube goes Tubemanship—the proper blending of experience, constant research, sound engineering and rigid quality control.

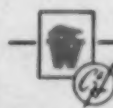
Wolverine aluminum tube is available in a wide range of sizes in popular alloys.

Because Wolverine has grown with the refrigeration and air conditioning industry, it is completely familiar with the needs of the industry—and knows exactly how to meet them. Wolverine's Engineering staff is constantly developing new and improved products and processes that result in improved efficiency and economy for manufacturers of refrigeration and air conditioning units.

Yes, there is a difference in aluminum tubing—TUBEMANSHIP is that difference. To be sure of the finest in tubing, always specify Wolverine. Write, too, for Wolverine's Aluminum Catalog.

Wolverine Tube, 1413 Central Ave., Detroit 9, Mich.

DIVISIONS OF  
CALUMET & HECLA, INC.  
CALUMET DIVISION  
WOLVERINE TUBE DIVISION  
CANADA VULCANIZER  
& EQUIPMENT CO., LTD.  
FOREST INDUSTRIES DIVISION  
GOODMAN LUMBER CO.



## WOLVERINE TUBE

Division of Calumet & Hecla, Inc.

Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES

EXPORT DEPT., 11 E. 40TH ST., NEW YORK 18, N. Y.

For more information about products advertised on this page use Information Center, page 32.



## John Wood Co. Enters Plan Air Pollution Study Over \$1 Million Set To Air Condition Bldg. Heating, Cooling Field by Purchase

CONSHOHOCKEN, Pa.—The John Wood Co., manufacturer of water heaters, tanks, gasoline pumps, and metal dairy equipment, has entered the heating and air conditioning field by purchasing the Fluid Heat Div. of Anchor Post Products, Inc., Baltimore, according to J. B. Balmer, president, John Wood Co.

The transaction, "involving upwards of a million dollars," covers the machinery, equipment, and inventory in Baltimore and plant and also the plant site and buildings, machinery, and inventory at Red Oak, Iowa, Balmer further explained.

The company plans to move machinery and equipment from Baltimore and integrate it within one of its plant locations at Conshohocken, Pa.; also maintaining the facilities at Red Oak, Iowa, to serve western customers.

"By reason of this expansion," Balmer explained, "John Wood Co. will soon be marketing a complete line of furnaces and conversion burners for both gas and oil, and also a unique type of summer air conditioning units."

Included in the line and to be called John Wood "Fluid-Heat" and John Wood "Fluid-Aire," is heating equipment for both gas and oil "that encompasses a wide range of sizes from industrial to the smallest known domestic application"; rotary-type and gun-type oil burners; a gravity type for both gas and oil; also air conditioning equipment for domestic use, it was stated.

"We look upon the acquisition of this heating and air conditioning line as an expression of our company's interest in expanding its profit opportunities," said Balmer.

"It will greatly increase our dollar output at Conshohocken; the Red Oak, Iowa plant will enable us to better serve our customers in the midwest not only with heating and air conditioning equipment, but also with automatic water heaters now manufactured at our Chicago plant."

Balmer also stated that present company plans call for shipments from Conshohocken during the latter part of the month of May.

## Kansas Study Group Opposes Licensing of Plumbers by State

TOPEKA, Kan.—A committee reporting to the Kansas State Legislative Council, an interim study agency which will submit recommendations to the 1957 legislature declared it does not "believe it is desirable or feasible to suggest that Kansas adopt a system of state examining and licensing of plumbers."

The committee proposed repealing present obsolete state statutes and "drafting a new one, for local regulation of plumbers," it was explained.

HOUSTON, Texas — Describing it as the first civic-sponsored project of its type, the Chamber of Commerce here recently signed a \$160,000 contract with the Southwest Research Institute of San Antonio to determine a "reasonable" level of air pollution in this area. Dr. Harold Vogtberg, institute president, explained the purpose of the two-year survey.

ATLANTA — Preliminary work will begin immediately on air conditioning of the Hurt building.

In all, it is expected that upwards of a million dollars will be spent in air conditioning the 18-story structure, according to an official of Atlantic Realty Co., owner of the large structure.


## Council Decides 'Beastly Hot' Ohio Village Hall Needs Air Conditioning

SYLVANIA, Ohio—Complaining that the small frame village hall "gets beastly hot" in summer, the village council authorized Mayor Clair M. Cooper to purchase an air conditioning unit for the building, "if a suitable one can be found for under \$1,000 from any dealer in the vicinity."

If members open the windows,

traffic noise on Main St. and Monroe St. which leads to nearby Toledo drowns out proceedings, Councilman William McCann further said to the group.

In winter cigarette, cigar, and pipe smoke threatens to "suffocate" councilmen and spectators, McCann emphasized on his statement.



**alco**  
**thermo valves**

SUPER-CHARGED  
FOR STABLE CONTROL

BODY STYLE FOR ANY APPLICATION

Range (Evaporator Temperatures)	Charge Type	Application Examples	Refrigerant				
			Freon-12 †(Yellow)	Freon-22 †(Green)	Methyl Chloride †(Red)	Carrone-7 †(Orange)	Propane †(Black)
			Charge Symbol				
30° F. to 50° F.	Gas	Air Conditioning, Water Chillers, Etc.	*55/ MOP FG	*100/ MOP HG	*55/ MOP MG	*55/ MOP CG	*100/ MOP PG
0° F. and Above	New Improved Liquid Charge	Industrial, Commercial, Display Cases, Unit Coolers, Etc.	F	H	M	C	P
0° F. to -40° F.	Low Temperature Cross Charge	Locker Plants, Freezers, Hardening Rooms, Cabinets, Etc.	FZ	HZ	MZ	CZ	PZ
"X" CHARGE (ZZ VALVES)							
-40° F. and Below	Ultra Low Temperature Cross Charge	Altitude Chambers, Scientific Equip- ment, Industrial Processing, Etc.	FX	HX			PX

\* The M.O.P. (Maximum Operating Pressures) shown above are standard. Others available upon request.  
† Color of nameplate identifies refrigerant.

...straight-through or angle connections...solder or SAE flare.  
For all temperature ranges—all operating conditions.  
Specify type desired when you order.



SEE YOUR ALCO WHOLESALE

ASK FOR BULLETIN 171-56

**ALCO VALVE CO.**

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

Designers and Manufacturers  
of Thermostatic Expansion  
Valves; Evaporator Pressure  
Regulators; Solenoid Valves;  
Float Valves; Float Switches.

7085



## Liability Insurance for Contractors

Check with Agent To Be Sure Policy Covers All Hazards You Are Apt To Face, Be Positive 'Exclusions' Aren't Detrimental

By John O. Sweet

CHICAGO—The importance of having protection—in the form of insurance—against legal liability hazards was emphasized to heating and air conditioning dealers attending a management school held on the Northwestern university Chicago campus.

The speaker was Henry E. Theobald, assistant dean of the university's School of Commerce, lecturer in insurance, and insurance consultant, who discussed liability insurance. He was assisted by Howard J. Benson, manager, Liability & Compensation Dept., W. A. Alexander & Co., Chicago.

### Select Insurance Man You Can Depend On

Dean Theobald first urged the dealers to select an insurance man who has professional knowledge of his business and one in whom they have complete confidence, so they'll have the coverage they need and get the service they're entitled to when it's needed.

Discussing legal liability hazards in a lecture prepared for the school, he said, in part:

"While there are many types of liability insurance policies, the most complete coverage is provided by the comprehensive general-automobile liability policy. Practically all insurance companies underwriting third party liability insurance offer this kind of policy.

### Protection Under Comprehensive Policy

"Here is a brief outline of protection you get under the comprehensive policy:

"Owners', landlords', and tenants' premises. This covers liability arising out of premises owned, leased, or used in conducting your business operations, or real property held for other purposes, and liability arising out of your business activities whether on or away from your premises. . . .

"Manufacturers and contractors'—operations. This protects you against loss should an accident cause injury to a person or damage to property while you are working on a job. Coverage ceases when the job is completed. It does not, however, cover you against damage

caused by careless workmanship.

"The premium you pay for this insurance is based on payroll. The rate varies for the different classifications of work, the same as with workmen's compensation.

"Elevators—ownership, maintenance, or use. . . .

"Owners' or contractors' protective—let or sublet work. If you sublet a portion of your work to others, you may be liable because of injury or damage caused by the subcontractor. You will have protection against such liability under this policy.

"Products—including com-

pleted operations. The policy covers not only while you are actually doing the work, but also covers any claims arising out of accidents occurring after the work has been completed and turned over to the customer, unless this coverage has been eliminated by endorsement as has been done in many cases.

"Many manufacturers of heating equipment carry products liability and extend their coverage to include the vendor (the contractor installing) but such a policy may cover hundreds of vendors and under the limit of liability all the vendors cannot possibly be covered if there is a series of losses.

"Also most of these manufac-

turers' coverages have a limited length of life. Vendors' coverage does not include installation, service, or repair.

"Most policies set forth the 'known and unknown' hazards. You want coverage against unknown hazards and here, again, your insurance agent should be able to recommend the extent of the coverage you need. . . .

### Protection Needed Long After Installation

"Warm air heating contractors in several parts of the country have found themselves sued for damages resulting from explosions in heating equipment—not while the workmen were on the job—but months, even years after the contractor completed his work."

In his prepared lecture, Dean Theobald cited examples of such suits and then continued:

"In view of the fact that the dealer is likely to be sued for

any accident caused by heating equipment or its operations, it is important that proper insurance be obtained. By proper insurance, I mean:

"1. Insurance which protects against the sort of suits described.

"2. Insurance coverage for all installations ever made by the contractor, no matter how many years back.

"3. High enough limits of liability to protect you against the very large money damages being asked and awarded in these cases.

"On Item No. 1 above, the common belief is that 'public liability' covers such conditions. Public liability coverage ceases as soon as your workmen leave the job. . . .

"Contractual—assumed liability. The liability of others which you assume under a lease of premises is covered under (Concluded on next page)

# Famous name and like these make

## AMERICAN-Standard

### AIR CONDITIONING DIVISION

Presents 6 New Additions to Air-Cooled Line . . .

Boosts Dealer Sales and Profit Potentials to an All-Time High

Waterless air conditioning is going over big. Cash in! Sell American-Standard . . . the line that's complete . . . the line that has the new products, new features that simplify installation . . . the line that sells faster, puts more dollars in your pocket.

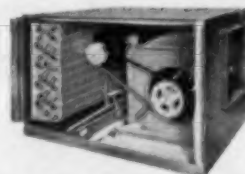
Backed by one of the world's best known brand names—American-Standard—here's everything you need—air-cooled or water-cooled—to meet the demands of the rapidly expanding residential and commercial cooling market. Here's top quality at competitive prices with a full margin of profit for you.



New 5 hp Horizontal Air-Flow Evaporator Unit for Air-Cooled Systems



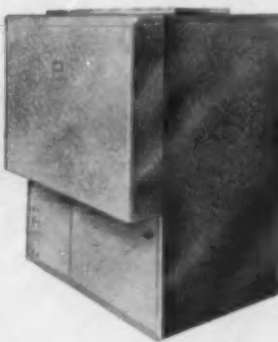
New Counterflow Evaporator Unit for Air-Cooled Systems



New Blower-Equipped Evaporator Unit for Air-Cooled Systems



New Year 'Round Air-Cooled Unit Equipped for Gas-Fired Heating



New Year 'Round Air-Cooled Unit Equipped for Oil-Fired Heating



New 5 hp Air-Cooled Condensing Unit (in addition to 2 hp and 3 hp)

## E-Z-SEE LIQUID INDICATOR



NEW FLO INDICATOR FLAP SHOWS ALL FLOW CHANGES

Analyze flow, function of expansion valve, by means of E-Z to SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof—hundreds of thousands in use.

Available to Wholesalers everywhere

REMCO INCORPORATED ZELLENOPLE, PA.



## Liability Insurance Coverage--

(Concluded from preceding page) this policy. Most policies, including this one, do not cover other types of assumed liability, such as under work contracts, unless such coverage is specifically provided. . . .

### 'Hold Harmless' Clause

"Many contracts contain a 'hold harmless clause' whereby the contractor agrees to hold harmless the other party to the contract from any claim for injuries or property damage arising as a result of the performance of that job.

"This is known as 'assumption of risk' and no insurance policy will cover that unless you have the written consent of the insurance company, and your policy is properly endorsed.

"I urge you to examine all contracts carefully when you

are bidding on a job, and if you run across a clause that says you will save them harmless, that you immediately take it up with your insurance agent, because your policy may not cover 'hold harmless agreements,' and they must be covered under your public liability policy. The carrier of your public liability policy probably will endorse your policy, when requested. . . .

### Auto Insurance

"Automobiles — Not Owned. This provides protection against claims arising out of the use of automobiles, owned by others but used in your behalf and for which you may be held liable.

"When it comes to employees' cars, we probably can't ask them to carry the same amount of insurance as we do, and perhaps in some cases, we can't de-

mand that they carry any. We can, however, protect ourselves against loss with a 'non-ownership' policy.

"Should an employee cause or have an accident with his car while driving it in the course of employment, you may be brought into the suit. If he had no insurance, or an insufficient amount, you would be protected to the amount of non-ownership insurance you carry. The same holds true if you hire trucking done by others who have no insurance or an insufficient amount.

### Do Not Have Have Self Named In Employees' Required Auto Policy

"Where you require employees to carry automobile insurance, we urge that you do not have yourself named in his policy as an 'assured.' Rather ask for an endorsement whereby the insurance company will notify you in

the event of cancellation or non-renewal. . . .

"In any case where an employee does some service for you —with or without your knowledge—he is a legal agent for you."

Dean Theobald's prepared lecture also covered these other points under legal liability hazards: fire legal liability; personal activities; automobiles—owned; and automobiles—medical payments.

### Exclusions

Dean Theobald also pointed out that all policies have "exclusion." In most cases these exclusions are specifically set forth.

"Make sure, then," he said, "that you discuss completely with your agent the exclusion and make sure you do not exclude any protection you may need."

## Air Conditioning, Air Purification Interest Noted on World Trip

COLUMBUS, Ohio—Dr. O. L. Barnebey, president of the Barnebey-Cheney Co., has returned from a four-month round-the-world trip with glowing reports of rapidly increasing interest in air purification, it was reported recently.

Accompanied by his wife, Dr. Barnebey planned his globe-girdling excursion in search of new sources of various nut shells (which constitute the principal raw materials for his firm's activated charcoals) and to lecture at technical societies and universities on air and gas purification, it was noted.

"Everywhere I went, local engineers and professional men expressed a great interest in complete air conditioning," Dr. Barnebey said. "Complete" means the filtration of air to remove dust, dirt, odors, bacteria, and undesirable gases and vapors, as well as heating and cooling it, he explained.

## Worthington Ups 4 In Engineering

HARRISON, N. J.—Several promotions in the Worthington Corp. Engineering Dept., Harrison Div., have been announced by W. C. Osborne, manager of engineering, Worthington Harrison Div.

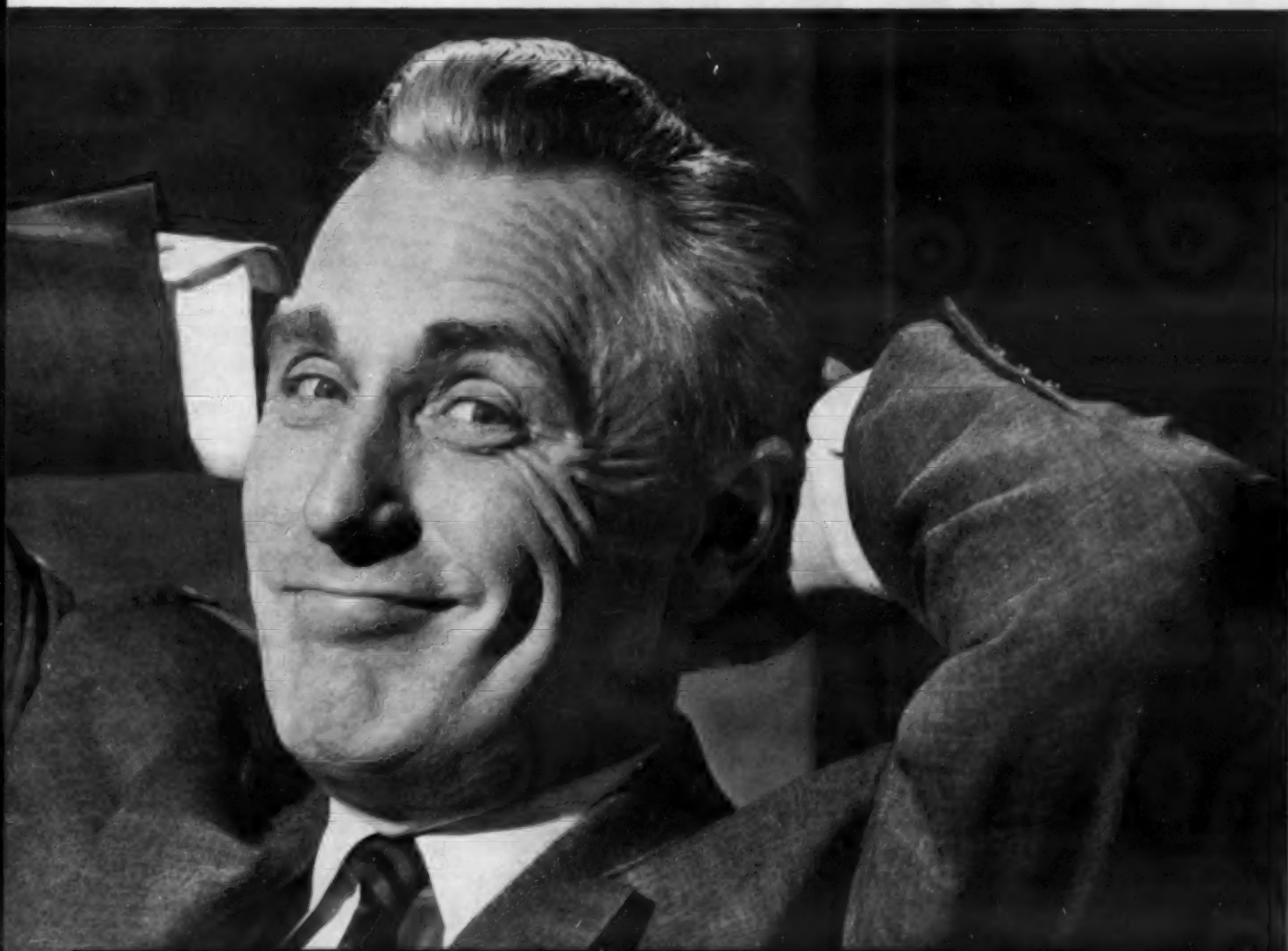
E. C. Schmachtenberg, formerly assistant to the manager of engineering and chief engineer, compressors, has been named assistant to the manager of engineering.

Hunt Davis, formerly chief engineer, compressor development, has been appointed chief engineer, compressors.

C. A. Macaluso, previously assistant manager, research and development, has been named assistant chief engineer, compressors.

W. F. Donovan, formerly group supervisor, research and development, is appointed assistant manager, research and development.

# NEW PRODUCTS selling easier!



Get rolling NOW with American-Standard's Big 1956 Promotion Program

Promotion-wise as well as product-wise, the Air Conditioning Division of American-Standard backs you with complete sales support. Hard-hitting color and black and white full page ads in leading national home magazines . . . liberal Cooperative Advertising Plan covering newspaper space, radio and TV

time, and local home shows . . . plus a brand new aggregation of advertising literature and dealer identification material. Act fast—contact your nearest American-Standard Air Conditioning distributor . . . listed under "Air Conditioning" or "Furnaces" in your classified telephone directory.

EVERYTHING for air conditioned comfort

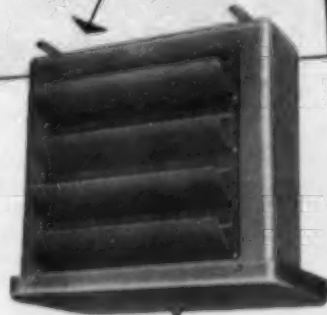
Warm Air Heating  
Summer Cooling  
Year 'round Units



**AMERICAN-Standard**  
**AIR CONDITIONING DIVISION**

ELYRIA, OHIO

**LARKIN**  
means good looks



### LARKIN HUMI-TEMP UNIT

For clean, smart lines, satin-smooth finish, harmonious color and overall good looks—Larkin leads. Behind this beauty is the quality and performance that keeps Larkin out in front!

Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Air Cooled and Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers

**LARKIN COILS**  
339 MEMORIAL DR., S.E. • ATLANTA, GA.





LEFT is Clyde Lancaster, Typhoon Air Conditioning Co. district representative in Alabama and Georgia, showing the firm's new easel type demonstration kit to Steve Pappas, vice president of Lancaster Equipment Co., Birmingham, Ala.

### Sherwin-Williams Builds Fully Conditioned Branch

JACKSONVILLE, Fla.—Construction of an ultra-modern, completely air conditioned principal branch office building for Sherwin-Williams Paint Co. was begun here recently. It will cost an estimated \$75,000 to \$100,000.

### Frank C. Obert Dies; Was Kramer Trenton Area Sales Mgr.

TRENTON, N. J.—Frank C. Obert of Nutley, N. J., greater New York area sales manager for the Kramer Trenton Co., of this city, died recently of a heart attack.

Obert, who was 59 years old, joined the Kramer Trenton Co. in 1938 after working for Copeland, Carrier, and Airtemp.

### 5-Ton Package Unit Solves Blueprint, Photostat Shrinkage Problem In Shop

PHOENIX, Ariz.—Keeping an alert ear for problems of industry which air conditioning may conceivably solve is a policy which has long been followed by E. C. Johnson, president of True Air Conditioning Co. here.

Thus it was that Johnson sold a 5-ton Westinghouse package air conditioner to the Techniprint Co., a specialty shop serving architects, contractors, builders, etc., with detailed blueprints and photostats.

An unexpected problem had developed at Techniprint in the unexplained shrinkage of many drawings through various periods of the year, it was explained. Frequently when an architect delivered a set of drawings to be copied it was

found that the photostats upon delivery were of a slightly different scale. This in precision construction was of course disastrous, Johnson relates, and often meant an expensive re-drawing of the plans.

A searching investigation revealed that while most of the paper stock normally used by Techniprint in everyday operation showed little shrinkage or expansion in Phoenix' sharp temperature changes, that brought in by customers of various types, weights, and materials was highly prone to temperature and humidity changes, it was said. Thus an exacting scale drawing by an architect who used a special type of paper habitually was likely to shrink sharply, particularly when remaining overnight.

One of the worst causes for unexpected shrinkage, air conditioning contractor Johnson found, was the habit of employees to use an evaporative cooler through the day, which meant concentration of relative humidity in the air, and then shutting the cooler off when closing up the shop at night. During the evening hours humidity was dried out of the shop with a resulting shrinkage, Johnson notes.

Johnson's solution to the problem, which was becoming serious in terms of goodwill from Techniprint customers was the installation of a 5-ton Westinghouse package unit capable of maintaining closely controlled temperature and humidity on a 24-hour per day schedule.

The 5-ton air condition, with ductwork distributing its output evenly into the office, paper storage room, and copying rooms, has completely eliminated the shrinkage problem altogether, Johnson advises.

### Carrier Names Hunt Credit Manager

SYRACUSE, N. Y.—Vere L. Hunt has been named credit manager for Carrier Corp., it



has been announced by Fred F. Hoyt, vice president and treasurer of the corporation.

Carrier's new credit executive began his business career with the Bankers Trust Co. in New York City. In 1941, he joined the Prosperity Co. in Syracuse as assistant credit manager.

Subsequently, he was named administrative assistant to the president and then elected assistant treasurer and secretary of Prosperity, the position he relinquished to join Carrier.

### Manier To Head New Kathabar Office

TOLEDO—Fred M. Johnson, manager of the Air Conditioning Div., Surface Combustion Corp., announces the appointment of J. R. Manier as district sales manager of the new Cleveland Kathabar sales and engineering office.

SO HALSTEAD & MITCHELL ENGINEERS SAID:

**"LET'S INCREASE FINNED SURFACE HEAT TRANSFER"**

*Announcing "TURBU-FLO" finned surface*

Increase turbulence of air flowing over a surface and heat transfer from that surface is increased. Develop a pattern on the surface which will build turbulence to a maximum within the allowable pressure drop limits... there you have the latest contribution from Halstead and Mitchell engineers... the new, exclusive "TURBU-FLO" finned surface!

"Turbu-Flo" assures you of extra-safe ratings for your manufactured equipment, because added heat transfer provides an unusual margin of added capacity.

"Turbu-Flo" is manufactured by ultra-modern equipment in our giant Zelienople plant to the exacting quality standards that have made Halstead and Mitchell products distinctive in the air-conditioning and refrigeration industry.

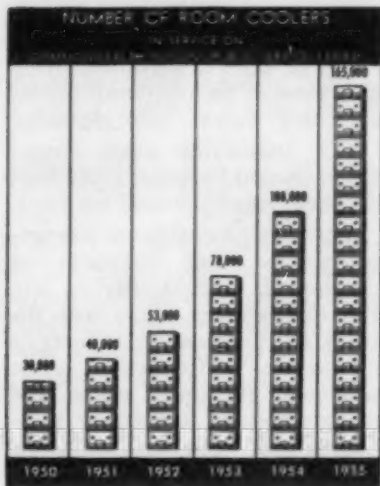
"Turbu-Flo" finned surface is immediately available to meet your every need.

Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.

TELL US YOUR NEEDS...  
AND ASK FOR BULLETIN DE-200







BAR GRAPH shows rapid growth of room unit sales in Chicago area.

## Chicago Room Unit '55 Sales Rose 53%

CHICAGO—There has been a spectacular increase in the use of room coolers in the Chicago area in the last few years, according to records kept by Commonwealth Edison Co.

The number of room coolers installed by residential, commercial, and other customers of the Edison system during 1955 alone approximated 57,000, to bring the total in service to 165,000. The increase for the year was 53%.

Annual increases during the last five years have ranged upward of 30% and the number of room coolers at the end of 1955 was five and a half times the 30,000 estimated to be in service in 1950.

The records cover the 11,000-square-mile area in northern Illinois, including Chicago, served by Commonwealth and its Public Service Co. Div.

Edison and Public Service Co. customers who rewire to accommodate a 240-volt appliance, including an air conditioner, are offered a share-the-cost plan under which the utility pays for the service entrance portion of the wiring.

## Fellman Gets Post With Whirlpool-Seeger

ST. JOSEPH, Mich.—Appointment of John Fellmann as mid-western regional manager for Whirlpool-Seeger Corp. was announced recently by Jack Sparks, general sales manager, distribution.

Fellmann had been assigned to the Whirlpool-Seeger refrigeration division since joining the company in January.

Previously he had been general sales manager of the Deep-freeze Appliance Div. of Motor Products Corp.

A Dropped Conditioner or Injured Man can cost you more than a



## General Sessions Court Finds Air Conditioning, Marked Improvement in South Carolina

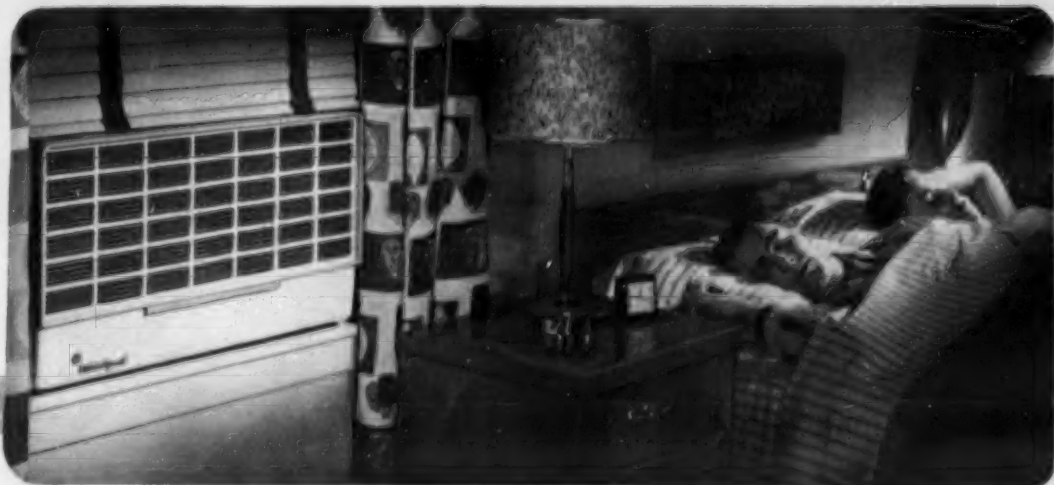
ANDERSON, S. C.—When and May 14 marked the first time the unit was used. The marked contrast between this and previous May terms of court, in which the courtroom was almost unbearably hot, received much comment from attorneys, court officials, and others who have to attend court.

The installation of the unit was not completed in time for the September term of court.

## Carrier Distributor Uses 'Blue Print For Spring' Motif for Window Display

NASHVILLE, Tenn.—An original window display idea with the theme "Blueprint for Spring" by M. T. Gossett Co., Inc. here, distributor for Carrier air conditioning, will be used nationally by Carrier Corp., it was learned recently. According to M. T. Gossett, president of the local firm, the display shows an air conditioner, and a woman at a steel window frame, with a background of spring fabrics, carrying the message to build or remodel for comfort. Gossett said Carrier officials told him the motif will be used nationally.

From  
**HOT**  
PROSPECTS  
to  
SATISFIED  
CUSTOMERS



Here's why you'll sell more

**RCA Whirlpool**

AIR CONDITIONERS



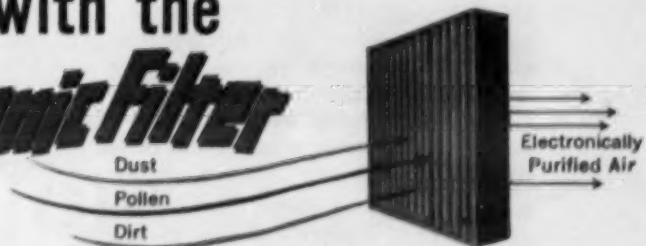
UNLIMITED  
Selection of  
Air Speeds

DEHUMIDIFIES  
Automatically

DRAFT-FREE  
Air Where It's  
Wanted

BUILT-IN  
Automatic  
Thermostat

FIRST with the  
**Electronic Filter**



300% more effective . . . removes  
airborne impurities as tiny as  
1/25,000 of an inch!

Feature RCA WHIRLPOOL Electronic Filter Air Conditioners. They head up a line that's got more of everything it takes to put the heat on your air conditioner sales!

JOIN UP . . . IT'S EASIER TO SELL RCA WHIRLPOOL THAN SELL AGAINST IT!

WHIRLPOOL-SEEGER CORPORATION • St. Joseph, Michigan

WASHERS • DRYERS • IRONERS • RANGES • FREEZERS • AIR CONDITIONERS • DEHUMIDIFIERS

For more information about products advertised on this page use Information Center, page 32.



## Inside Dope

By GEORGE  
F. TAUBENECK

(Concluded from Page 1, Col. 1)

A thirsty pigeon had burrowed into a room air conditioner, and died there.

Carefully the serviceman removed the remains, disinfected the room unit, and sprayed drugstore cologne all around the apartment.

Guess what happened afterward:

He was sued, the manufacturer was sued, and the complaining tenant departed for an untraceable new address.

### Definition of an Expert

"A market analyst is one who passes as an exacting expert on the strength of being able to turn out, with prolific fortitude, strings of incomprehensible for-

mulae calculated with microscopic precision from extremely vague assumptions which are based on debatable figures acquired from inconclusive tests and quite incomplete experiments, carried out with instruments of problematic accuracy by persons of doubtful reliability and rather dubious mentality with the particular anticipation of disconcerting and annoying everyone outside of their own fraternity." ANON.

### Out of Our Mailbag

Ad. Auriema, Inc.  
New York City

Editor:

I thought the following might be suitable for your column "Inside Dope."

Our company represents Magnecord throughout the world. Recently we had an interesting exchange of cables with our distributor in Colombia. He requested that we cable reply if

we could supply him with the Magnecordette at the old low price. We cabled as follows:

"EXPECT TO SHIP BLONDE MAG LATE THIS WEEK NO MORE BLONDES AT OLD PRICE PLEASE AUTHORIZE TWO DARK CAN SUPPLY AT OLD PRICE."

Reply came from Colombia: "SATISFACTORY SUBSTITUTE BRUNETTE FOR BLONDE."

J. A. DORMAN

### Let's Be Sensible

Major requirements for an expanding, prosperous economy include:

(1) Steady flow of investment capital—private capital provided out of the savings of individuals. With an investment of more than \$12,000 needed for every job, and with about one million new jobs needed each year, we must "prevent and eliminate interference with the

basic processes of capital formation."

(2) Incentive to invest capital. The obstacle of discriminatory taxes must be removed.

(3) Freedom from undue government control and direction. Economic decisions must be made by people who have a personal stake in the outcome instead of by bureaucrats who have nothing to lose personally.

(4) An end of government competition with business. Private venture, which must pay out of pocket for its mistakes, cannot compete with government, which passes the burden of its errors and inefficiencies on to the taxpayer.

(5) An atmosphere which encourages faith and confidence in the future, based on favorable conditions and circumstances.

(6) Greater understanding of how our free economy operates. This includes recognition of the fact that higher real

wages, greater benefits, and more security are largely the result of growth in productivity and cannot be conjured up by arbitrary means and methods.

(7) Industrial peace based upon sound human relations between employer and employee.

The real solution is to improve the real earnings of people and their ability to buy the things they want—on the basis of increases in industry's productive efficiency, better products at lower costs and prices, and all the other techniques of genuine economic progress.

So far as immediate effects on the rate of economic activity are concerned, there would seem to be little reason for preferring one type of spending to the other.

People have to be employed to produce machinery and other capital goods just as they have to be employed to produce consumer goods.

Investment spending has more than an immediate impact on economic activity. It has a long-run stimulating effect on employment and growth that consumer spending does not have. When investors buy an additional billion dollars worth of plant and equipment, the plant and equipment become available thereafter as a part of the nation's productive facilities.

The nation is strengthened and standards of living can be raised as a result of such increased productivity capacity. There must be a continued climate of economic freedom if this historic process of capital formation, the key to our spectacular and unrivaled growth, is to survive and develop.

### And Soon We'd Be Hip-Deep

Man-made machine able to reproduce itself has been envisioned by a Bell Telephone "pure" scientist.

His robot could collect parts and assemble another machine in its own image. Thereafter the second mechanism would collect and assemble parts for a third machine, and so on *ad infinitum*.

Sooner or later every woman must make a choice between motherhood and a career.

Should she give the cereal box top to Junior to send for a deathray gun, or keep it herself and enter the \$10,000 contest?

### Last Laughs

From Robert Trumbull's book, "As I see India," these delightful quotes:

"In Hyderabad, I heard that the ruler kept an uncut diamond, as big as his fist, on his desk as a paperweight. I asked his secretary if this was true.

"'Good heavens, no, what utter rot,' the secretary replied. 'It's only an emerald.'

"The Nizam hired a European expert to appraise his pearls. After several weeks without word from the appraiser, the Nizam sent for him. 'How long will it take to finish the job?' he asked with some impatience. 'Two or three years, your exalted highness!' the expert replied. 'Good Lord,' exclaimed the Nizam, 'I couldn't possibly afford to pay you for all that.'

# YOURS FREE!

You Get This  
**JUG-A-LUG**  
with your  
July purchase of  
**genetron®**  
from your  
**WHOLESALER**

Helpful!  
Easy-to-Use!

Here's something every service engineer needs... and your "Genetron" wholesaler will give you a JUG-A-LUG Absolutely Free with the purchase of a 25-lb. cylinder of "Genetron" during the month of July.

This all-steel JUG-A-LUG carrier makes handling of 25-lb. cylinders a snap. Just screw it on the cylinder threads and carry the "Jug" away. No more awkward wrestling with cylinders... no more scraped and strained fingers.

At least a \$1.50 value, the "Genetron" JUG-A-LUG comes with the manufacturer's life-time guarantee not to warp, crack, bend or break. Fits 10-lb. as well as 25-lb. cylinders.

Now, during JULY ONLY, your "Genetron" wholesaler can offer one JUG-A-LUG free to a customer... with your purchase of a 25-lb. cylinder of "Genetron" Super-Dry Refrigerant.

That's all there is to it. Just buy a 25-lb. "Genetron" Cylinder from your wholesaler the same as usual during July... and get your sturdy, useful JUG-A-LUG FREE!

**genetron**

**GENERAL CHEMICAL DIVISION**

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

Offices in Principal Cities



### SUPPLIES ARE LIMITED!

See your "Genetron" wholesaler early... and be sure to get your JUG-A-LUG while he has them on hand.



**Reputation of Mfr., Installer Emphasized****Fort Worth Association Pamphlet Advises Home Owner What To Look for When Purchasing Air Conditioning**

FORT WORTH, Texas — Important points that a consumer should check when purchasing residential air conditioning have been outlined in pamphlet form by the Fort Worth Air Conditioning Association, Inc.

Pamphlets were distributed by the association during the recent Home Improvement Show held here under the sponsorship of the local Home Builders Association.

"Your best assurance of quality is still your nationally known name brand equipment and a well qualified installer who will stand behind his work," the pamphlet states.

Some technical considerations involving equipment size, house construction, ductwork, duct installation, grilles, and registers are also included.

**Beware of 'Opportunistic' Manufacturer**

"When purchasing a new home or improving an old one, here is how to check for a quality air conditioning installation," the pamphlet begins.

Other excerpts follow:

"Is the unit manufactured by a nationally known and recognized air conditioning manufacturer? Or is the unit assembled by an opportunistic company who is in the air conditioning business to 'skim off the cream' of the present air conditioning boom?"

"The results of such manufacturing ventures should be evidenced by what took place in the TV industry in recent years. Be sure that when your unit needs parts that the manufacturer will still be in the air conditioning field and parts available.

"Equipment size and house construction. These two items must go together. Unfortunately, there is no accurate rule of thumb 'square feet per ton' basis for air conditioning in spite of what some people may advertise. A home should be designed for air conditioning as well as the air conditioner being designed for the home.

**Advice on Constructing New Homes**

"Here are a few simple suggestions to reduce your load and operating cost if you are fortunate enough to be able to plan from the beginning:

"(1) Window size and number should be held in reason.

"(2) Orientation should be considered, with trees and garages shielding the west and southwest sun, if possible. Every effort should be made to prevent direct sun rays on large

glass areas of the residence.

"(3) Extreme attention should be paid to how well the home is insulated. Wall insulation and ceiling is desirable.

"(4) Roof construction is most important with a well ventilated attic and a light colored roof going a long way towards influencing your load.

"(5) Light colors and shade help reduce sun load.

"After all of these things have been considered, then your properly sized unit may be determined only by an accurate load estimate by qualified people.

"Ductwork. This is the hardest item for the purchaser to

check. Even qualified engineers have slight differences of opinion on proper duct design. But you can at least ask for a duct layout of your system. Then try to learn as much of the details as you can.

**Duct Design Is Key to System**

"It is impossible in the pamphlet to go into much detail on duct design. By contacting the Fort Worth Air Conditioning Association you can be put in touch with someone who can answer your questions. Remember, the duct design is the key to the entire system.

"Grilles, registers, and their

location. A good engineer can locate supply registers in the ceiling, wall, or floor, and do an excellent job of heating and cooling your house. Many registers which should be confined to heating are being used on air conditioning. Many side-wall registers are being misapplied to ceiling installations. By asking the right people questions, these mistakes can be rooted out and exposed.

"Duct insulation. In general supply ducts run in a hot attic should be insulated with a minimum of 2 in. of vapor barrier-covered insulation. The joints should be sealed, leaving

no duct exposed.

"No unit, no matter how good it may be, is any better than the installer. Be sure of the firm's ability and know-how. And no equipment, no matter how good nor how well installed, will perform at its best unless it is properly serviced and maintained.

"Be sure to check to see if the installation firm is financially responsible and will be in business tomorrow.

"Make it a point to visit his place of business. An established installation and service firm consists of qualified engineers, trained technicians, expensive equipment and facilities all placed on a firm business foundation and headed by competent businessmen.

If your air conditioning is installed by people who fit this description, the chances are good that the other items will take care of themselves."

**Here it is! Waterless cooling****pre-assembled**

**New, self-contained Mueller Climatrol is factory charged . . . tested . . . ready to install and operate.**

Complex installation problems leave you leery of air-cooled air conditioning? Forget it — they've been eliminated with this single, self-contained, two-ton Mueller Climatrol. It's so easy to install, any sheet metal man can do it . . . so economical anyone can afford it. Sells for about the same as a remote condensing unit.

Here's another profit-maker for the man who handles Mueller Climatrol. With the industry's most complete line of heating and cooling equipment, you can answer any customer's preference. And a hard-driving, nation-wide sales promotion program gives you the pre-selling power of brand recognition.

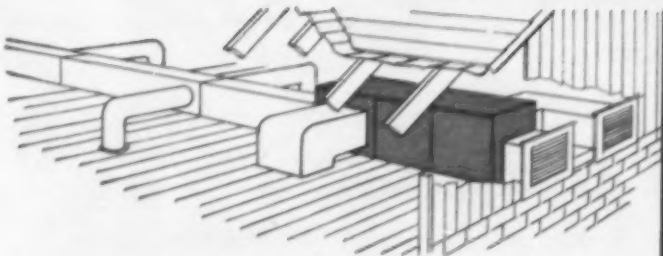
Want more information about this new unit . . . and your profit possibilities with Mueller Climatrol? Drop us a line today.

See your man from

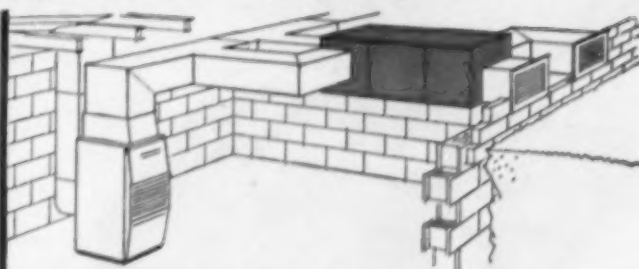
**Mueller Climatrol**

Dept. 66 • 2056 W. Oklahoma Ave. • Milwaukee 15, Wis.

...sales are turning greener every day



**IN ATTIC INSTALLATIONS** — For homes with wet heat, basementless homes, etc. Unit sits on rafters close to outside wall, with intake and exhaust vents to outside. Main line duct down center branches off to individual rooms.



**IN BASEMENTS AND CRAWL SPACES** — Unit is hung from beams or joists or can sit on floor . . . is tapped into duct system with only negligible ductwork revision. Short air intake and exhaust to outside wall. Includes cooling blower.

**MARSH Instruments**

THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.

PRESSURE GAUGES and Dial Thermometers for all services.

MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.

MARSH INSTRUMENT COMPANY  
Sales Affiliate of Jas. P. Marsh Corporation  
Dept. D., Skokie, Ill.



## 'Utility Core,' Serving Factory, Offices Is Feature of Industrial Installation

NORTH HOLLYWOOD, Calif. —The trend in air conditioning entire facilities of new industrial construction, is evidenced in the \$1 million plant of Telecomputing Corp. here.

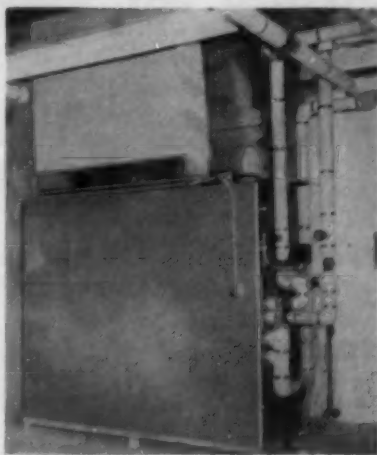
The entire 50,000-sq. ft. factory and office building is provided with year-round air conditioning. A total of only four Recold air conditioning units are utilized.

Since the plant is located in the San Fernando Valley where temperatures sometimes soar above the 100° mark, the air conditioning has a marked effect on production, the management says. Employees are not subjected to heat fatigue and operations continue on a normal basis even during extended heat

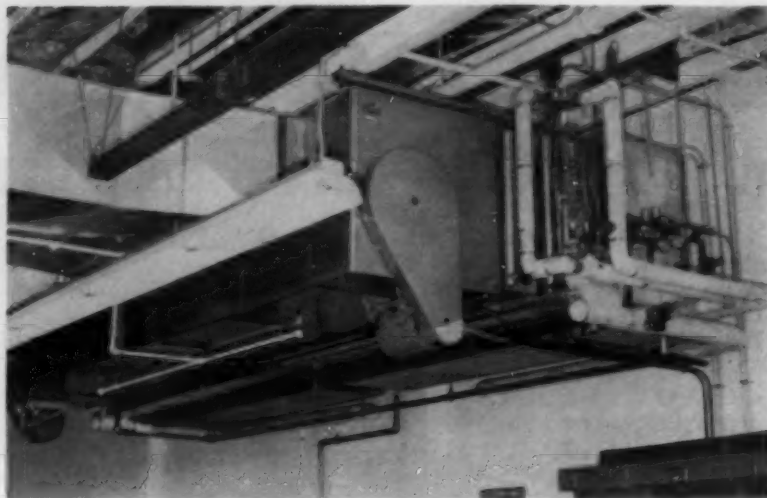
waves when nearby plants without air conditioning are forced to shut down.

Telecomputing Corp. produces electronic equipment used for data reduction and automatic sales and inventory control. It is also used in a variety of control functions in industry and in the field of scientific research and development.

A design feature of the Telecomputing plant is the "utility core" serving both the factory and office areas and increasing the functionality of the plant. This core contains the mechanical equipment of the air conditioning system, boiler, and blower equipment, first aid rooms, conference rooms, and other facilities.



**SMALL UNIT DOES BIG JOB.** This Recold UVT-140 air conditioning unit takes up little space in the Telecomputing plant but provides a lot of comfort.



**HEAVY, HEAVY, WHAT HANGS OVER?** In this case it is a pair of superfine Recold 20,000 c.f.m. horizontal air conditioning units, helping to condition the entire 50,000-sq. ft. Telecomputing Corp. factory and office building in North Hollywood, Calif.

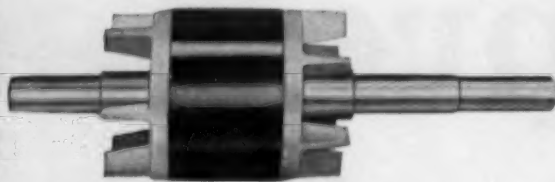
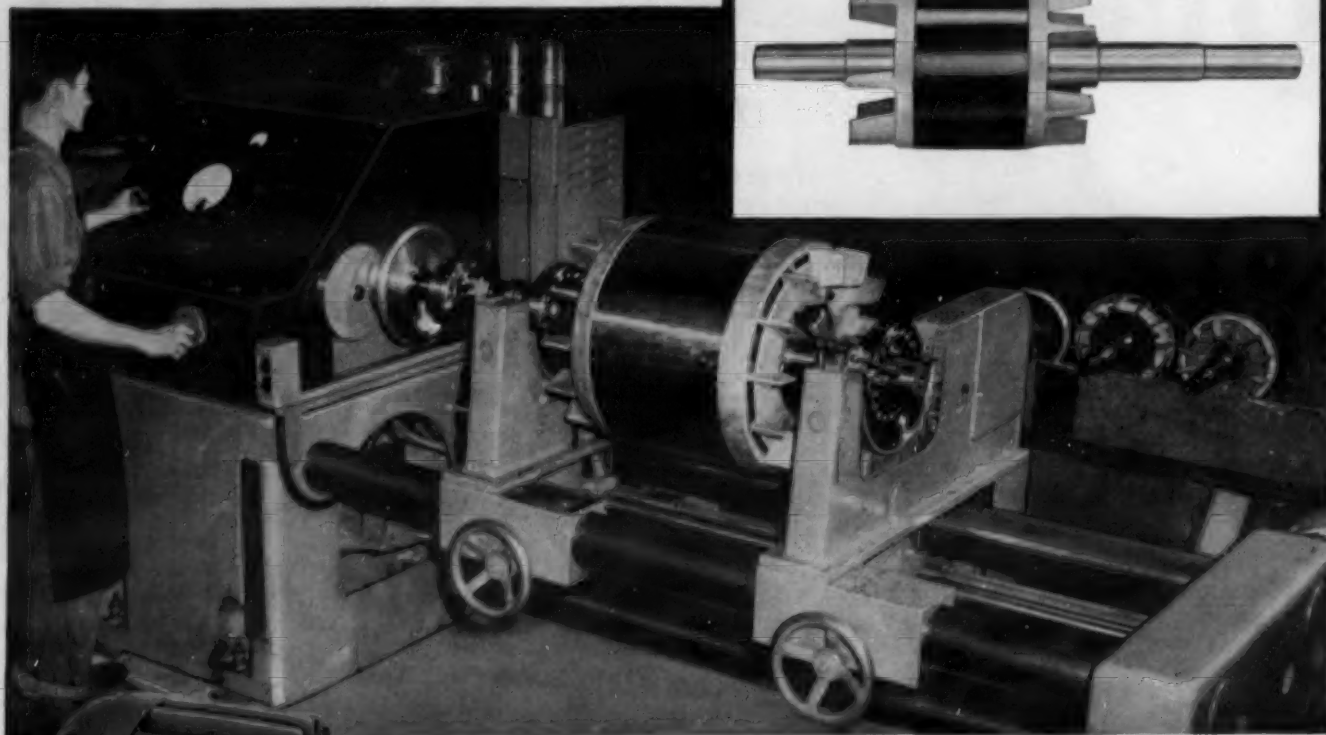
Air conditioning units include one Recold vertical unit, two Recold horizontal units, and one Recold Multi-Zone" unit. The Multi-Zone unit is capable of conditioning a number of areas

simultaneously with a variety of temperatures.

This permits adjustment to varying heat loads or personal preferences such as in individual offices. Thermostatic controls operate dampers which divert air through heating or cooling coils in the Multi-Zone unit as required.

The Telecomputing plant was designed and constructed by the William J. Moran Co. Pereira & Luckman, Los Angeles, served as consulting architect. Air conditioning contractor was Arm-Ray-Corp., Rosemead.

WAGNER ELECTRIC MOTORS...  
THE CHOICE OF LEADERS IN INDUSTRY



### All Wagner Motors are *DYNAMICALLY BALANCED* for smooth performance

Wagner totally-enclosed fan-cooled motor.  
1 through 30 hp, NEMA Frames 182-326U.



Wagner open type drip-proof motor.  
1 through 30 hp, NEMA Frames 182-326U.

Motor balance is important to fine machine and equipment performance. A well-balanced motor greatly reduces vibration—allows your equipment to operate smoothly and quietly.

Every rotor, even in the smallest fractional hp rating, used in a Wagner Motor is dynamically balanced on balancing machines like that shown above.

Your selection of Wagner Motors for your applications gives you other benefits, too. You can specify totally-enclosed motors that are fully protected against damage from filings, chips, dirt, fumes, moisture; or open type drip-proof motors—in ratings through 500 hp. Wagner Motors are known for dependable performance... they assure freedom from costly motor maintenance and even more costly motor failure. And—you have motors that can get on-the-spot service when needed—anywhere in the United States.



**Wagner Electric Corporation**  
6441 Plymouth Ave., St. Louis 14, Mo., U.S.A.

BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES • AUTOMOTIVE BRAKE SYSTEMS—AIR AND HYDRAULIC

For more information about products advertised on this page use Information Center, page 32.

### Carrier Foundation Announces Mechanical Engineering Scholarships

SYRACUSE, N. Y.—Scholarships for mechanical engineering study at four selected colleges were announced recently by the Carrier Foundation, Inc.

The 1956 Carrier scholarships will be awarded for the five-year course at Cornell university and for the four-year terms at Georgia Institute of Technology, Rensselaer Polytechnic institute, and University of Kentucky. The award is \$750 each year which can be used by the winners for college expenses.

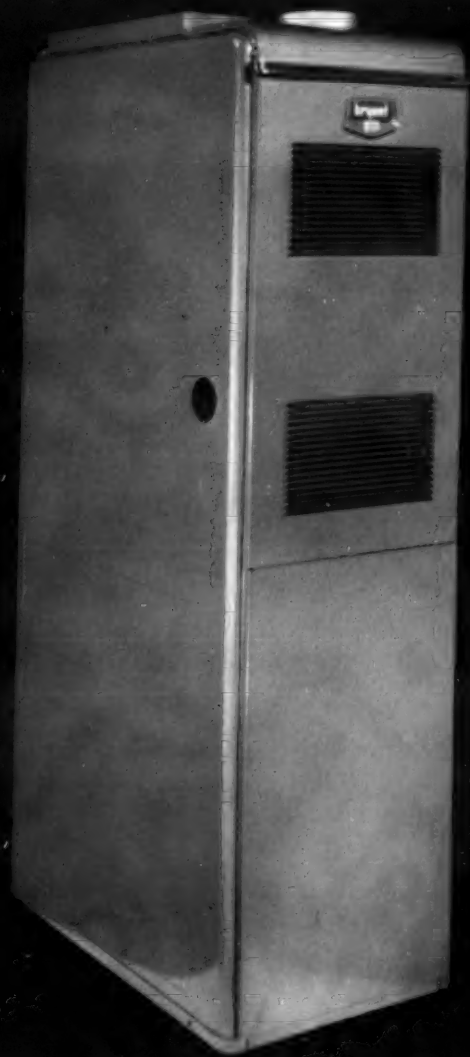
Instituted last year, four scholarships will be awarded annually to deserving young high school graduates who require financial assistance in order to secure a college education. Four students are currently completing their freshman year as Carrier scholars at Cornell, Kentucky, Purdue university, and Syracuse university, foundation officials said.

Within the next three years, a total of 16 deserving college students will be receiving financial aid under the program from the Carrier Foundation, Inc., which is supported by Carrier Corp., it was noted.

Of the four grants each year, one is a continuing scholarship at Cornell university in honor of the late Dr. Willis H. Carrier, sometimes called the "father of air conditioning and one of the founders of Carrier Corp. Dr. Carrier was graduated from Cornell in 1902 and later served on its board of directors.

The second continuing award is at the University of Kentucky as a memorial to the late J. Irvine Lyle, an alumnus of that institution and the first president of Carrier. The other two scholarships are at colleges selected each year by the corporation's scholarship committee, also in honor of Dr. Carrier.





**GROW BIGGER WITH**

**bryant**



and here's one way you can  
GROW BIGGER WITH

**bryant**



REAP THE PROFITS FROM  
BRYANT'S FIELD-TESTED  
and proven

## MONEY BACK GUARANTEE PLAN

that increases furnace sales

This is a proven furnace sales-building promotion that will double and treble your heating sales in the off season. It is open only to qualified Bryant dealers. Learn how you can qualify to participate in this proven sales-building promotion.

and here are 8 more reasons why  
you'll GROW BIGGER with BRYANT

1. Your customers know and trust the name Bryant . . . famous for 47 years as the leading name in home comfort.
2. From small home to mansion there's a Bryant to fit the budget and the need in gas or oil furnaces, boilers, air conditioners, space heaters, unit heaters, water heaters.
3. You build customer confidence when you install Bryant . . . the highest quality home comfort equipment built.
4. You profit more with Bryant because of the Bryant dealer development program, the most complete in the industry.
5. You get sales-building tools that increase sales and profits.
6. You have the help of a nearby Bryant distributor who gives you complete engineering, sales and service help.
7. You are backed by powerful national advertising.
8. You get complete co-op advertising to build sales in your own community.

Every home owner who is thinking about new heating equipment for his home will want to know the details of Bryant's exclusive *Money Back Guarantee*. That's why it has been a sure-fire prospect getter wherever it has been used. Get the details today. Learn how simple and straight-forward it is. For the name of your nearby Bryant distributor, write, Bryant, 48 Monument Circle, Indianapolis 4, Indiana.

The finest,  
fairest satisfaction  
guarantee offer  
ever made

A sale plan  
that offers  
guaranteed furnace  
performance!

A straight forward  
no-strings-attached  
offer that  
makes sales

If your customer  
isn't satisfied he  
gets back full  
furnace cost!



Be Mr. B.  
in your  
community!



grow bigger with

**bryant**





## 1,000 New Markets, 300 Renovations Scheduled for 1956 by SMI Members

CLEVELAND—About 1,000 new markets will be opened and some 300 others renovated this year by members of the Super Market Institute, Curt Kornblau, research director of the association, reported at the recent SMI convention here.

The new markets will each do \$1 million a year or more in sales, he said. One out of every seven of these will be a relocation.

Rate of opening of new markets in 1955 was 17%, up from 14% in 1954. One out of every six markets operated by an SMI member was opened last year while 7% underwent a major remodeling.

Fifteen per cent of the new markets last year were acquired through merger by 12% of the association's members. About 17% of members closed one or more stores. But for every store closed or sold, 18 new ones were opened.

### 55% SELF-SERVICE

About 55% of markets owned by SMI members today are completely self-service in grocery, meat, produce, and dairy departments. This is up from 47% in 1954.

Prepackaged produce departments are in more than 30% of the SMI markets, mostly in the New England and north central states.

One third of SMI members accounting for 81% of the stores operate central warehouses. Another 31% of members belong to a retailer-owned cooperative and 15% are affiliated with a voluntary group. Some have their own warehouses and are also affiliated with a group.

About 24% have no central warehouse and are not affiliated with any group.

### 'IDEAL' MARKET

An "ideal" market, SMI members indicated, would have a total area of 20,000 sq. ft. with a sales area of about 12,600 sq. ft. The adjoining parking lot would cover 62,100 sq. ft. Thus about two acres of land would

be needed to accommodate the store and its parking facilities with parking requiring 3½ times as much space as the store.

Since 1949, Kornblau noted, the concept of the ideal market has grown about 50% in store area and nearly tripled in parking area.

Nearly two thirds of the members want no mezzanine or basement in their ideal market.

## Frigidaire Announces New Water-Cooled Units For Low Temperatures

DAYTON—A new series of water-cooled refrigeration compressors designed specifically for low temperature applications has been added recently to the compressor line produced by Frigidaire division of General Motors.

The new units are available in 2, 3, and 5-hp. sizes. They are basically the same in construction as the other sealed-reciprocating Frigidaire models, ex-

cept for the new water-cooled cylinder head.

The compressors are built for use on any single stage "F-12" refrigeration system which requires refrigerant suction temperatures at the compressor down to -40° F.

### To Cool College Dorm

MONTEVALLO, Ala.—A. W. Talbert Construction Co., Selma, has been awarded a \$568,550 contract for the construction of a men's dormitory on the campus of Alabama college here. The three-story, fireproof building will be air conditioned.

## Keco Conducts Cooling Course for Air Force

CINCINNATI — Keco Industries, Inc., manufacturer of special portable refrigeration and air conditioning equipment, is conducting a training school for Air Force personnel in the maintenance and overhaul of portable air conditioning equipment.

Keco's vice president, Roger K. Braun, is in charge of the training program and a group of six other companies cooperated in the two-week course of instruction, it was reported.

# "The Carloads Will Go Forward As Scheduled"



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Every  
Time

by

Jimmy  
Hatlo



## Let's Be Prepared

That the United States is woefully short of engineers is apparent to anyone who cares to look at the classified advertising section of a metropolitan newspaper. There he will see page after page of siren calls by manufacturers for engineers—any and all kinds of engineers.

Despite the glittering enticements manufacturers offer—they have tried about everything—they are getting few takers. There just aren't enough trained engineers to go around.

On the other hand readers of newspapers also see reports that the Soviet Union is turning out young, well trained engineers faster than we are. One source claims that the output of Red engineers is nearly three times our 22,000 graduates a year.

The amazement which western observers express at the technical advances made by the Soviet Union in aviation, atomic energy, and military equipment is ample evidence that Red engineers are good.

Why don't we turn out more engineers?

One reason is a lack of adequate training facilities. Another, even more serious, is a lack of applicants for engineering schools. More glamorous professions have turned the eyes of our youth away from the slide rule.

College authorities complain that fewer high school students are studying mathematics and scientific subjects. They are also dismayed to find that some students who enter engineering schools have wistful misconceptions about the profession and their own capabilities for it.

What can be done about it? One answer which is gaining momentum now—one in which the practicing or consulting engineer who is young in heart can take an active part—is the JETS movement.

JETS stands for Junior Engineering Training for Schools. The working idea originated with Lorin G. Miller, former dean of engineering at Michigan State university, now retired. He believes that there should be a "4-H" club of engineering to tell young men and women of early high school age what engineering is and what opportunities it offers.

The first JETS club was organized at East Lansing High School in 1950. Slowly the idea spread to other schools until today there are 75 clubs around the country, containing more than 2,000 members.

Professor Harold P. Skamser of Michigan State now directs the activities of the JETS on a national basis as a "labor of love." Says Prof. Skamser, "We feel that

in the JETS program, high school students can learn at first hand the real nature of engineering and be able to compare their talents and abilities with the requirements of the profession."

Members get this first-hand information through individual and club projects, talks with professional engineers and engineering teachers, and via engineering films and publications.

In recent years JETS clubs have been invited to exhibit their projects during spring open houses at a number of engineering schools. A first prize winner at the Michigan State exposition in 1953 designed a model refrigeration rotary compressor, casting the parts out of aluminum. He won a scholarship to State where he later did outstanding work in engineering. Another exposition winner designed a model solar heating unit for a house.

Each JETS club has two adult advisors. One is a high school science or mathematics teacher. The other is a practicing or consulting engineer.

This, Mr. Engineer, is where you can enter the picture. While the instructor supervises the club's projects and activities and guides the young people from an educational standpoint, the engineer plays an essential role in connecting the student with the professional world.

He can arrange visits to local engineering firms and projects of interest to club members. He can secure speakers from industry to address the club. He can give authoritative advice on conditions of work, salaries, opportunities, and answer other questions about the profession. He can guide members to engineers in the field in which they are particularly interested. He can be a "Big Brother" to the group.

He can do all these things at a cost of only a few hours of his time. Clubs meet only twice a month.

Prof. Skamser praises the manner in which working engineers and engineering societies have come forward to act as JETS advisors. But, he notes, as the program expands, more volunteer engineers will be needed.

Engineers who would like to participate in this project can get complete details on the JETS and clubs in their community by dropping a postcard to JETS, P.O. Box 470, Michigan State University, East Lansing, Mich.

Besides being patriotic, and contributing to the advancement of the engineering profession, it can be fun.

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## SUBCONTRACTORS FAVOR BAN ON BID SHOPPING

Subcontractors Association  
Norfolk 7, Virginia

Editor:

We refer to your issue of April 30th, and to the article headed "Bill to Bar Bid Shopping on U. S. Contracts Approved by House Unit."

Your treatment of the subject matter is somewhat lopsided when considered from the viewpoint of fairness to mechanical specialty contractors, and all other contractors supporting this legislation.

You devoted 157 lines to tell what general contractor, Frank J. Rooney and 4,600 members of his Associated General Contractors of America think about Senate bill S.1644 entitled, "Federal Construction Contract Act of 1955." But you permit only twelve words to say what the proponents think of this proposed legislation.

Assuming that you do not already have in your files all the information and facts you need on this bill, a little research would have supplied your rewrite department with enough

facts to mention why approximately 87,000 subcontractors in the United States are striving for the protection this anti-bid-shopping legislation will afford them.

The Senate passed this bill unanimously in July, 1955. On reaching the House of Representatives in January, 1956, it was referred to Claim Subcommittee No.2 of the House Judiciary Committee. After hearings, it was reported out favorably to the full Judiciary Committee. In April, after additional hearings by the full committee, the bill was reported out favorably to the House Rules Committee.

Many proponents of this bill, who have followed it closely from its inception, now believe that the Chairman of the House Rules Committee, Howard W. Smith (D-Va) will use his influence to bottle the bill up in his committee.

The approximately 90,000 subcontractors in America are in the main, small independent businessmen who are being continually punished and oppressed financially by a large segment

(Concluded on next page)

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## OFF THE CHEST

### SUBCONTRACTORS FAVOR BAN ON BID SHOPPING

(Continued from preceding page) of the construction industry who practice unscrupulous chiseling and bid shopping after an award has been made on a low bid to the Federal government.

The government does not benefit from this chiseling and bid shopping. Conversely, the practice more often than not results in inferior workmanship and materials being used by the victims in their desperate effort to avert financial ruin. When the subcontractor is whipped he has to take it out on labor, on the material supplier, the manufacturer—everyone is hurt. Dun & Bradstreet reports show that in 1955, of 39 trade classifications of business failures, subcontractors were third from topping the list with 880.

What a few government procurement officers think of this bill, either pro or con, should not be given consideration. A dispatch from Washington on Dec. 18th quoted Congressman Vinson as saying the House Armed Services Committee had uncovered shocking practices by the armed services in awarding defense contracts through direct negotiation rather than competitive bidding. In recent years congress has investigated and exposed several cases of unethical and illegal collusion by Federal procurement officers.

Additional arguments which the air conditioning and refrigeration contractors in America might offer your publication follow.

#### ESTIMATES ARE COSTLY

The unfair trade practice which was largely an ethical problem a generation ago, is today a very grave problem because of the extreme high cost of estimating mechanical specialty work. To estimate the cost of such items as plumbing, heating, piping, air conditioning, and electrical work is expensive. To estimate these items repeatedly and still not obtain the subcontract is prohibitive and it is particularly disturbing to learn that your bid was the low responsible bid and that it was used for bid-shopping purposes.

Under the present antiquated system of awarding public works contracts by the Federal government unfair practices are

sustained and collusion is supported. It enables the unethical general contractor to gain a higher competitive advantage over the high type, ethical general contractor who refuses to indulge in haggling, bargaining, and chiseling after an award has been made on a firm price.

Bill S.1644, by requiring a prime contractor to name his mechanical specialty contractor at the time he submits his bid on the project would merely require the general contractor to grant the same respect, and extend the same protection to his subcontractor's bid which the general contractor is extended by the Federal government and other awarding agencies on his sealed bids.

It may interest you to know

that the American Institute of Architects are proponents of a system requiring prime contractors to name their subcontractors when submitting bids. Long before Senate Bill S.1644 was drafted, the A.I.A. published in 1951 on page 62 of their Handbook of Architectural Practice the following:

#### ALL PARTIES CAN LOSE BY 'DICKERING'

"Dickering of subbids after the contract is let is of advantage to no one but the contractor and sometimes may prove a boomerang to him. . . . If the names of the principal subcontractors are given in the proposal and form part of the accepted bid, their status is determined and no second bidding for cut-rate prices is possible for those portions of the work. Furthermore, the name of the subbidders permits a more intelligent analysis of the low bid and indicates the general class

of work to be expected."

Enactment of S.1644 will help to create an atmosphere of fairness and honesty in which subcontractors bid and perform work, and will attract a better class of operators in this whole field.

This bill would tend to decrease the cost of construction to the government by attracting a larger number of responsible subcontractors on bids. It would discourage unethical general contractors from the field. Savings from lower costs and better construction would benefit the government and the taxpayer.

May we ask that you give consideration to these arguments supporting enactment of Senate Bill S.1644 and give equal publicity to the proponents of this bill as you did to the opponents. Meanwhile, if further information is desired, please communicate with us.

A. B. JORDAN

### Bush Names Jennings To Newly Created Post

WEST HARTFORD, Conn.—Bush Mfg. Co. here has named Lawrence E. Jennings, Jr. to the recently created position of Product Manager.



L. E. Jennings

In addition to supervising the work of Bush application engineers, he will head the new product development department and be responsible for the dissemination of information on new products among the companies' sales engineers.

A graduate of Trinity college with a B.S. degree, Jennings was previously associated with the Sturtevant Div. of Westinghouse Electric Corp.

Man, this  
Paragon time switch  
has everything

#### 3-WAY DEFROST VERSATILITY

#### HEAVY-DUTY, INDUSTRIAL TIMING MOTOR

#### 1-PIN COMPLETES CYCLE

All yours when you install Paragon 300 MB series time switches—for ALL COMMERCIAL DEFROSTING

That's right—every time you install a Paragon 300 MB series time switch, you're offering complete defrost protection . . . more customer-pleasing features proved necessary for greater profit per job!

The 300 MB is a "natural" for all refrigeration equipment where the defrost period is less than two hours. Use it for compressor shutdown, hot gas or reverse cycle and electric heat systems. It's a key part of the equipment you use when you convert a system with no means of defrosting.

One pin is all that is necessary to complete the cycle . . . period can be adjustable from 15 to 120 minutes, for 1 to 8 cycles per 24-hour day.

Consider too, the heavy-duty, industrial-type 4-watt timing motor. Here's ruggedness in reserve—well beyond normal service demands.

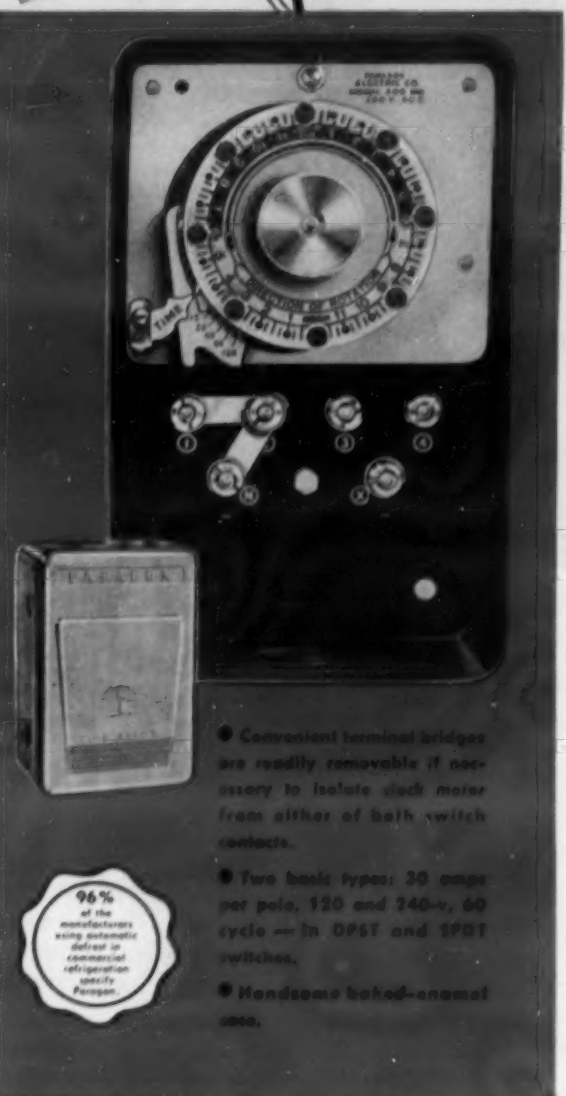
It's smart business to stock 300 MB'S



Keep a supply of 300 MB'S on hand for emergency service. It's a simple precaution that will pay big dividends. Order from your wholesaler, or write Dept. 1687.

## PARAGON

Also write for complete facts on these famous Paragon items.



• Convenient terminal bridges are readily removable if necessary to isolate clock motor from either of both switch contacts.

• Two basic types: 30 amps per pole, 120 and 240-v, 60 cycle—in OPST and SPST switches.

• Handsome baked-enamel case.



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### BEACH-RUSS Portable VACUUM PUMPS



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Model A Two-Stage Pump—1/10 mm. vacuum, blank flange, 2.5 CFM, 1/2 HP, weight 80 lbs.

Write for prices and data.

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# American-Standard Ups Soule In Commercial Heating, Cooling Hotel Cleveland To Be Fully Air Conditioned Within 5 Years



**J. P. Soule**

NEW YORK CITY—Appointment of John P. Soule as manager of commercial heating and cooling systems has been announced by D. J. Quinn, vice president of sales for the Plumbing & Heating Div., American Radiator & Standard Sanitary Corp. He will have offices at the division headquarters here. Soule joined the division in

1951 as a member of the staff of the vice president of sales. He served as sales engineer in charge of development of the American-Standard "Remotaire" room conditioner, and later as heating and cooling specialist for the New York sales district. An alumnus of Stevens Institute of Technology in Hoboken, N. J., Soule first was employed by the American Blower Corp. He later filled positions at the Federal Shipbuilding & Dry Dock Co., Newark, and Modine Mfg. Co., New York City, it was added.

CLEVELAND — Hotel Cleveland plans to install air conditioning in 70% of its rooms within three years, and to be fully air conditioned within five years, the owner announced. Roger P. Sonnabend, vice president of Hotel Corp. of America, said the firm would spend \$3,250,000 to expand the hotel by 100 rooms in the next two years and to have it completely renovated and air condi-

tioned in five. This would turn the 900-room structure into a modern, deluxe 1,000-room hotel, he stated.

New capacity will come from two floors now used for storage space—the first bedroom floor and the 10th.

The storage section on the first floor has never been used for guest rooms because of an 18-in. steel beam running along the wall at window height, Sonnabend explained.

Builders will knock small windows through the wall above and below the beam, and install air conditioning machines between them, he noted.



TO COOL Griffith Park, Calif. Observatory photography laboratory, this Drayer-Hanson "Spotaire" HRC-124 air conditioning unit has been suspended from the ceiling. It is matched with a remotely placed 1½-hp. compressor.

## Conditioning Photo Lab Aids Precise Milky Way Mosaic at Observatory

LOS ANGELES—Because of the precise work required to build an 18-ft. long photographic mosaic of the Milky Way, the Griffith Park Observatory here has air conditioned its photographic laboratory.

Scheduled to be ready for the observatory's 1957 summer show, the mosaic will contain approximately 80 separate 17 by 17-in. negatives that must be precisely fitted together.

So that the borders between individual plates will not show in the final mosaic, it is necessary to hold the room temperature and the density of the photographic plates extremely close. The development process also calls for the photographic solution to be held within 1° F. so that the development can be made by timing to the same density.

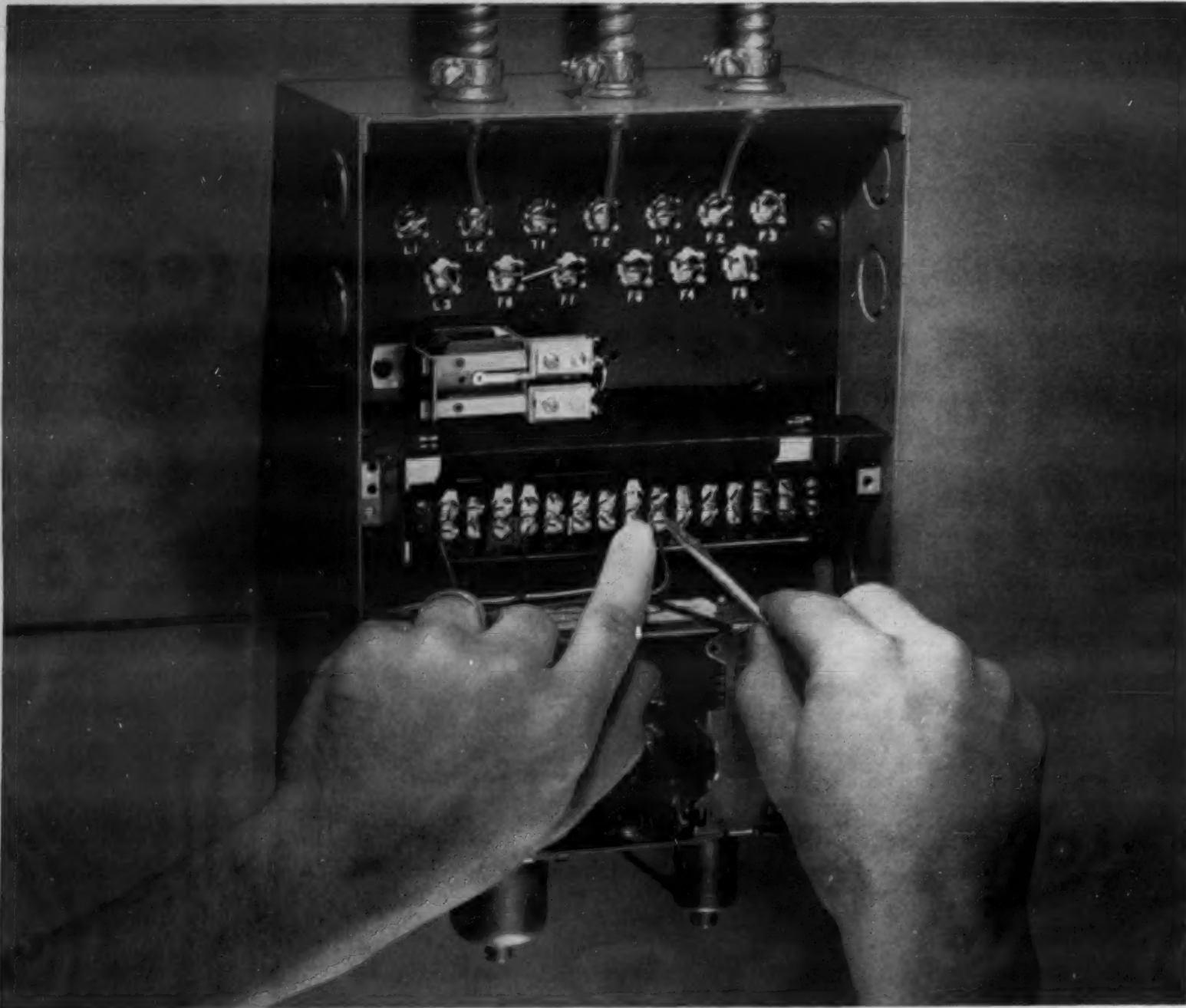
To cool the photo laboratory, located atop the observatory, a Drayer-Hanson "Spotaire" HRC-124 has been suspended from the ceiling. It is matched with a remotely placed 1½-hp. compressor. "Freon-22" is used. A 500 c.f.m. unit, it features a direct drive 9-in. DIDW rotor dynamically and statically balanced.

The equipment was sold by Air Conditioning Supply Co. here and installed by Kissell Refrigeration Co.

## Weathertron Appoints Pittsburgh Wholesaler

BLOOMFIELD, N. J. — Appointment of T. King McCreery, Inc., Pittsburgh, as a wholesaler for the General Electric "Weathertron" heat pump has been announced by G-E's Weathertron Dept.

The firm will distribute Weathertrons in selected counties of Pennsylvania, West Virginia, and New York.



## ONE-UNIT AIR CONDITIONING CONTROL SIMPLIFIES WIRING

In the new Penn Series 753 air conditioning control center, all functions are centralized in one compact unit. There are 14 low voltage terminals for both heating and cooling . . . so all wiring is simplified by centering it into one unit. There is no need for additional connection or junction boxes. Also reducing wiring problems are the built-in high and low pressure cut-out controls.

And, there are advantages for the manufacturer, too. For example, the Series 753 has detachable bellows which permit pre-assembly of pressure elements into hermetic systems. To be sure you're getting the best, look for the Penn Series 753 on the self-contained package air conditioning units you buy and install for either residential or commercial applications.

## PENN CONTROLS, INC.

Goshen, Indiana

Automatic Controls For Heating, Refrigeration, Air Conditioning, Gas Appliances, Pumps, Air Compressors, Engines

See how easy it is to make wiring connections in the Series 753 . . . both line and low voltage terminals are easily accessible in this "clean-cut" panel assembly.



Exterior view of Series 753 residential air conditioning control center.

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EVAPORATOR  
CONDENSER  
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## Sees Education as Major Function

### Distributor Conducts Many Courses To Give Dealers Engineering Know-How

PITTSBURGH — Convinced that "the place to compete in the air conditioning business is in engineering know-how," Standard Air & Lite Corp., Carrier distributor here, makes intensive effort to train its dealers so they can do just that.

This is one of the major functions of a wholesale distributor, believes J. Norman Riley, president of the firm, which gave up the contracting side of its business two years ago to concentrate on wholesaling the Carrier line.

"As distributor we have the responsibility of giving our dealers training in sales, engineering, and service," Riley says.

How seriously the company takes this responsibility is indicated by the fact that at least one training class is held every week. Frequently there are two or three classes every week.

#### Basic Courses

Basic courses in sales, engineering, or service run one night a week for 10 weeks, and the attendance at these averages between 30 and 50, according to Riley. Those enrolled in the course are required to make a nominal payment to cover the cost of take-home materials.

"People seem to attach more value to these materials if they have to pay for them," Riley points out.

Because Standard's territory covers 17 counties in western Pennsylvania, a number of people travel some distance to attend the classes.

Upon completing one of the basic courses, the "students" are given appropriate certificates. Standard Air offers one course, however, that can't be completed.

#### 'Advanced Engineering' Course Never Ends

"Our 'advanced engineering' course lasts forever," is the way Riley puts it. "This class meets every Wednesday night the year around and covers all phases of air conditioning and refrigeration."

Enrollment in the advanced classes generally amounts to about 10 people, but Standard Air prefers to keep these classes small anyway because the subject matter can and does become rather complicated.

No special inducements are offered dealers to get them out to the evening classes, either basic or advanced, Riley explains.

"We tell them that if they

want entertainment, they should stay home and watch television. If they're looking for beer and pretzels, we refer them to the bar down the street. But if they really want an education in air conditioning, they're most welcome here," he says.

"This doesn't mean," he adds, "that we never provide refreshments or entertainment, because we occasionally do. But we emphasize that we're dead serious about teaching them all we can about air conditioning."

The courses are prepared by Standard Air with generous use of material supplied by Carrier, and the instructors include many of the distributorship executives, it was further explained.

### Plumbing, Heating Firm Enters Cooling Field; Named UsAirco Outlet

MINNEAPOLIS — National Plumbing & Heating Supply Corp., Providence, R. I., has been named a distributor by United States Air Conditioning Corp., it is announced by R. P. Kelley, general sales manager of UsAirco.

The appointment marks the entry into the cooling field for National, which is one of the largest wholesalers of plumbing and heating equipment in Rhode Island. The new distributor will handle the complete UsAirco air conditioning line.

National maintains its headquarters at 136 W. Exchange St., where it occupies a new building containing 3,000 sq. ft. of showroom area and 35,000 sq. ft. of warehouse and stockroom space.

HOBOKEN, N. J. — The United States Testing Co. has installed in its main laboratories here a vertical duct apparatus for determining the performance of air filters.

The test procedure is that of the Air Filter Institute Code for Testing Air Cleaning Devices used in General Ventilation.

This apparatus will accommodate both the dry type and viscous impingement type filters, such as throw-away and reusable filters used in warm air heating and air conditioning.

It excludes, however, automatic mechanical filters, electrostatic precipitators, and filters used in industrial processing and hygienic applications.

The test procedure is based

upon a series of one-hour runs in which air flow resistance and arrestance are determined.

The quantity of dust fed per run is determined by the manufacturer's air flow rate, and the test is considered complete when allowable limits of air flow resistance or arrestance are reached.

An independent test facility of this type is especially useful to the industry, since it represents a major permanent installation for which any one manufacturer has only occasional needs, the company said.

#### Church Air Conditioned

SAVANNAH, Ga. — An air conditioning and heating system has been installed in the Savannah Primitive Baptist church by the Men's Fellowship group.

The 15-ton air conditioning unit was purchased from and installed by the Southeastern Air Conditioning Co.

don't be

# saddled

by 'under-par' air conditioning . . .



## — Janitrol —

offers you a quality line designed to sell!

Want to eliminate expensive service call-backs and complaints? Want to keep profits from doing a disappearing act? Switch to Janitrol Summer Air Conditioning, the line that stands out for quality performance, easy installation and freedom from service headaches!

The complete Janitrol line will help you sell more jobs and increase your profits. Why? Because it gives you exclusive sales features that guarantee performance and long-life your competition can't touch. Every Janitrol installation promptly goes to work to help sell another!

There are "packaged" Janitrol water-cooled and waterless conditioners for every residential and light-commercial building and remodeling need. Models for use with existing warm air furnace or for independent operation. Combination cooling and heating units you can feature for year 'round comfort.



and Janitrol gives you plenty of merchandising and advertising support, including hard-hitting ads like these in leading consumer magazines, and those your builder-prospects read! Ask your Janitrol representative for the profit-making story on Janitrol's complete air conditioning line right away!



New!

YEAR 'ROUND SALES-MAKER! **Janitrol**

### Win-Sum-matic

YEAR 'ROUND CONDITIONER

Combines clean, thrifty gas heating and powerful waterless cooling in a single "package" that fits in little as 4 1/2 sq. feet of floor space. Easily installed in any home—upflow and downflow models. "ADD-ON" Cooling Option increases sales potential! Unit may be installed for heating only, with evaporator cabinet left empty for addition of cooling at buyer's option.

the best years of your business begin with...

## Janitrol

HEATING... COOLING

JANITROL HEATING & AIR CONDITIONING DIVISION  
SURFACE COMBUSTION CORPORATION • COLUMBUS 16, OHIO  
IN CANADA: MOFFATS, LTD., TORONTO 15

Complete line of gas and oil furnaces, unit heaters, conversion burners, water-cooled and air-cooled summer conditioners, combination heating-cooling conditioners.

**PRESSTITE**  
**PERMAGUM®**  
Sealing Compound

- for sealing joints and seams
- for plugging and caulking in
- Supplied in beads, tape or bulk

See your wholesaler or WRITE

**PRESSTITE-KEYSTONE**  
Engineering Products  
COMPANY  
39th & Chouteau St. Louis, Mo. 101 E. Ontario Chicago, Ill.



## Ansul Says Field Reports Show Service Calls Cut If Indicator Is Used With Drier

MARINETTE, Wis. — Examples of successful field applications of its drier and moisture indicator were cited by Ansul Chemical Co. at a recent "progress report" press conference in New York City.

Various types of systems were listed by Ansul, including truck, railroad, and airplane applications, cold storage warehouse, hotel, and market jobs, involving its "T-Flo" drier and, in some instances, the "Dry-Eye" moisture indicator.

The drier employs Andrite as the drying agent. This is a gel-type activated alumina developed by Ansul which is claimed to have approximately 40% more drying area than conventional forms and will pick up more than 4.5% of its weight of hydrochloric acid even

when saturated with water, Ansul says.

The Dry-Eye unit has a leak-proof window with an indicating element which changes color depending on the moisture content of the system. If the window shows blue, the system is dry; if pink, moisture is present, Ansul explains. The indicator not only warns when moisture is present, thus avoiding serious difficulties, but also can tell servicemen when a drying job is complete, thus saving on excessive use of driers, Ansul claims.

To make sure both the drier and the moisture indicator could pass working tests in the field, Ansul says it waited nearly three years to gather reports from users in virtually all in-

dustries using refrigeration and air conditioning.

Here are the user reports as released by Ansul:

G. L. Vaughn, service manager, Southern Dairies, Inc., Asheville, N. C., reports a 75% reduction in moisture trouble since the change to this drier on the company's refrigerated ice cream delivery trucks.

Mel Brown, chief engineer in charge of cooling for Lennox home furnace-air conditioners at Marshalltown, Iowa, says: "Our experience with the T-Flo was better than anticipated. Our moisture work is now at a minimum and we have had fewer service jobs of other types than we anticipated."

Archie Robertson, Minneapolis service manager who installed the driers in the Red Owl supermarket chain in five north central states, said: "Since installing our first units two years ago, we have never been plagued by moisture conditions."

### CONFIRMS NATURE OF TROUBLE

Howard Krueger, service contractor in Marinette, Wis., who services 1,500 installations a year, says: "By installing the moisture indicators, we can immediately confirm or eliminate moisture as a source of difficulty. It has another important advantage for the customer in that he doesn't have to take the serviceman's word for it that he has a wet system; he now can see it for himself."

The chief engineer of a nationwide bus line reports: "Although we do not have exact figures, we know we have cut down our maintenance costs quite a bit."

Verne Roberts, building superintendent of the Hotel Beverly Hilton, Beverly Hills, Calif., says that with moisture indicator systems on each of the hotel's systems, "non-technical personnel can be used to nip in the bud any incipient moisture



CHECKING a "Dry-Eye" fitting for signs of moisture trouble is Howard Sismilich, refrigeration supervisor for Grand Union Food Stores, Englewood, N. J. Sismilich says he finds his work load reduced because all employees can spot moisture trouble easily and report it to him before serious breakdowns occur.

troubles just as well as an experienced man."

George J. Madden, service contractor in Jacksonville, Fla., reports: "We had an extremely wet dairy job that the drier handled successfully."

### CLEANS UP DIRTY OIL

Orville Brown, of Miami, Fla., who installed a system in a metal fabricating plant there, says the drier took only a couple of hours to clean up dirty oil that appeared only 10 days after the system was installed.

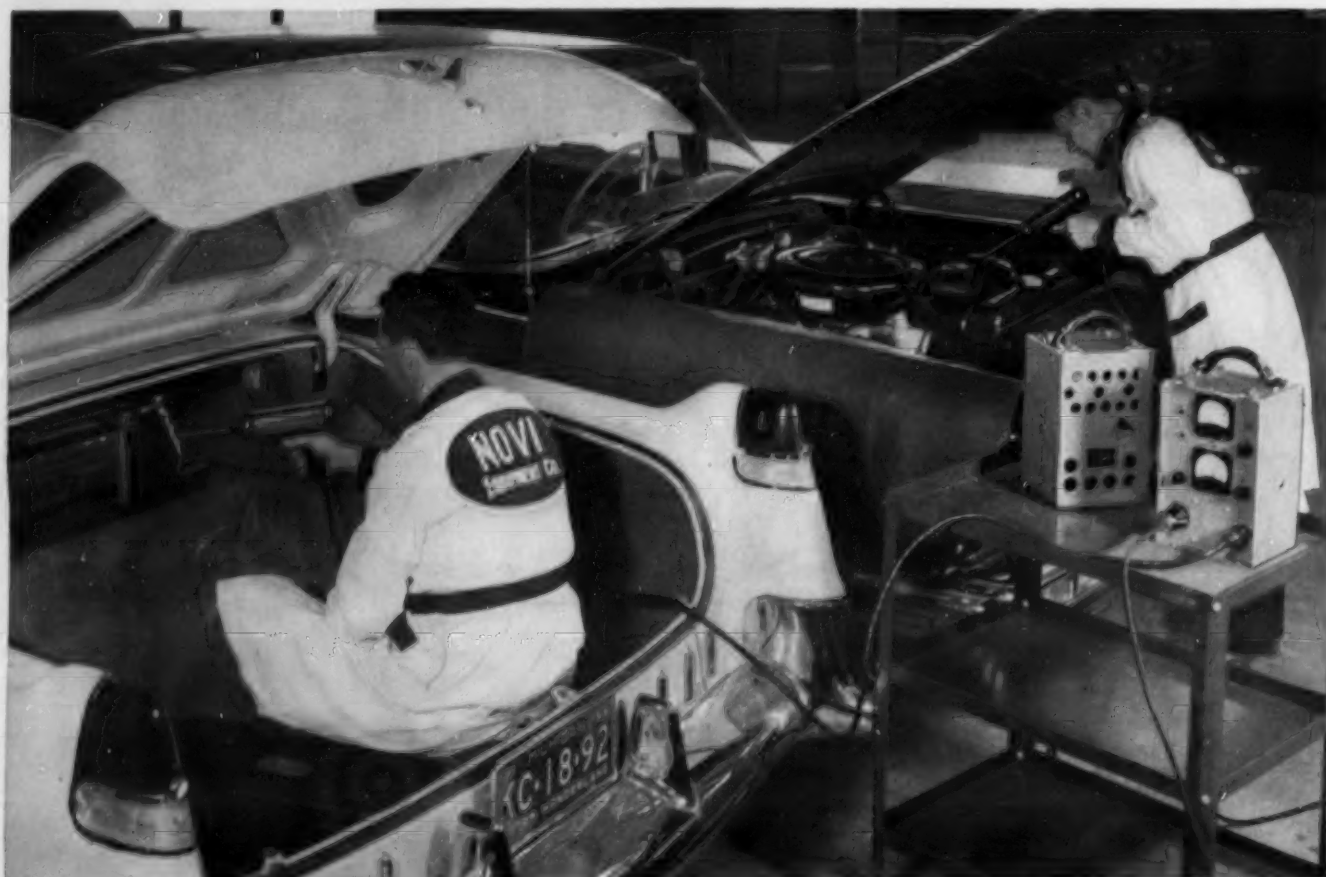
In the aviation industry, Pan American has begun the installation of the driers in its Strato-cruisers, says Ansul, who reveals that it has begun to make up special T-fittings, made of aluminum to save weight, for Carrier Corp., which is preparing them for other airline installations. The aluminum fittings will save between four and five oz.

In the railroad industry, the driers are riding the reefers of the Pacific Fruit Express, also installed there by Carrier, as well as passenger cars of the New York Central system, Ansul declares.

### Soreng Elects W. W. Mansfield

SCHILLER PARK, Ill.—Willis W. Mansfield has been elected vice president and director of manufacturing of Soreng Div., Controls Corp. of America, it was announced by President Louis Putze.

Prior to joining Soreng in January, Mansfield was associated with Penn Controls for a period of 22 years.



RAPID, ACCURATE CHECKS ARE MADE ON AIR CONDITIONING SYSTEMS BY NOVI EQUIPMENT CO. SERVICEMEN WITH G-E LEAK DETECTORS

## ON NOVI CO. AIR CONDITIONING UNITS . . .

## Service Costs Cut 85% with G-E Leak Detector

"85% of our service repairs on auto air conditioning units were due to loss of Freon\* at a cost of approximately \$5.00 per repair," says Mr. Lewis W. Welch, president of Novi Equipment Company of Novi, Michigan. "Since we adopted the G-E leak detector as a standard item in our repair kits, complaints have been reduced to almost nil. We are in the process of equipping all of our 90 factory installation centers with G-E leak detectors to assure that our customers will receive the best possible initial installation."

Like Novi Equipment Company, you can benefit from these outstanding features of the General Electric Type H-1 leak detector:

**SIMPLE IN OPERATION**, the detector will locate leaks in any system which contains a halogen compound, or into which such a compound may be introduced as a tracer.

**EXTREMELY SENSITIVE**, the detector will detect a leak as small as 1/100th ounce of Freon\* a year.

**LOW IN PRICE**, the detector costs only \$604.50\*\* complete. For more information contact your nearest General Electric Apparatus Sales Office or write for bulletin GEC-233 to Section 585-30, General Electric Co., Schenectady 5, N. Y.

\*Registered trade-mark, Kinetic Chemical Division of E. I. DuPont de Nemours & Company.

\*\*Manufacturer's suggested retail price.



MANY APPLICATIONS are possible with the General Electric Type H-1 leak detector. Lightweight and portable, it also features audible leak indication.

GENERAL  ELECTRIC

For more information about products advertised on this page use Information Center, page 32.

### ROTARY SEAL

### Replacement Units

Available in a wide size range for Commercial, Semi-Commercial, Air Conditioning and Home Refrigerators.

EASY TO INSTALL \* ECONOMICAL



2026 NORTH LARRABEE STREET CHICAGO 14, ILLINOIS, U.S.A.



# WATCH WESTINGHOUSE



For **7** Ways  
to Get Extra  
Air Conditioning  
Sales!

## WATCH WESTINGHOUSE

**1** ... for powerful new advertising support

### CONSUMER SALES BARRAGE

Big full-page ads in major newspapers—the nation's greatest current advertising campaign.

*The most universally followed TV-Radio "show" on the air*

### **2** 1956 POLITICAL CAMPAIGN

During the Democratic and the Republican national conventions, and through nine long weeks of campaigning and on election night ... this tremendous selling job will blanket the country on the 175 TV stations and 212 radio stations of CBS! Combined audience—well over one hundred million people!

*With the continuing force of the nation's*

### **3** NUMBER 1 TV DRAMA STUDIO ONE

Yes, we mean Westinghouse Studio One—playing to 20 million weekly over the CBS Television Network.

But there's so much more for you on

# 4 5 6 7



4

Watch Westinghouse Air Conditioning  
STAR on its own . . .

# Dramatic Local Advertising



● New, Effective One-Minute TV Spots  
Featuring Betty Furness,  
America's Favorite Sales Person

● New Super Ad Program  
Digs Out Effective Leads

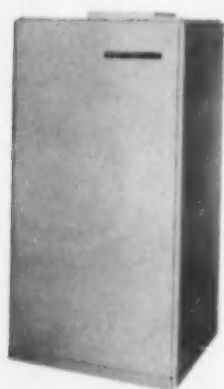
● New Radio Spots That Shout With Sales Success

● New Sales Aids

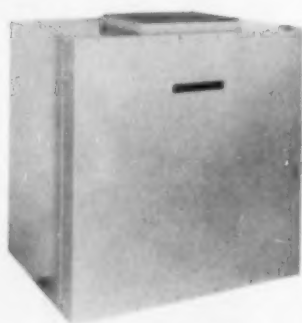
6

**ALL NEW furnace line and NEW Air-cooled  
every prospect in this broad product line**

**"Most Cooling-Per-Dollar" Sells these Residential and Commercial Units**



**RU Unitaires**—compact, lightweight water or air-cooled units for residential use.



**ACU Units**—need no water! Link-up with existing or new forced air heating systems . . . available in 2, 3 and 5-ton models.



**SU Unitaires**—these commercial units can be used with or without duct-work. Give "custom-tailored" air flow . . . available in 3, 5 and 8-ton models.



**MU Unitaires**—commercial units with two "custom-built" features (1) exclusive ten position fan mount, (2) dual refrigeration circuits for 50% or 100% operating capacity . . . in 10 and 15-ton models.



**CAC Condenser Unit**—completely eliminates the use of water for air conditioning. Designed for use with all Westinghouse Unitaires in 2, 3 and 5-ton capacities.



**5**

Watch Westinghouse air conditioning step out  
in front with Exciting Rewards for Dealers  
and Distributors in the Big

# WESTINGHOUSE LAS VEGAS SALES RODEO

**5 BIG DAYS  
AND NITES**



You can  
Earn 'em  
or  
Win 'em

*Expenses paid from home and back*

## Sports 'n Fun in the Sun

Golf	Dude Ranching
Fishing	All You Can Eat
Boating	Trail Ridin'
Sight Seeing	Prospectin'

## It's a Lark After Dark

Fabulous Restaurants	Swimming 'n Tennis
Spectacular Shows	Souvenirs
World-Famous Stars	Dancing
Glittering Casinos	
Western Barbecue	

*Luxury Living at the Finest Desert Hotels...*

condenser give you the right product for



**RO RG Units**—provide year-round residential heating and cooling. Simple to install with access to any component... requires minimum space.



**New GB and OB Units**—ideal wherever overhead clearance is limited... gas or oil fired basement units with automatic controls.



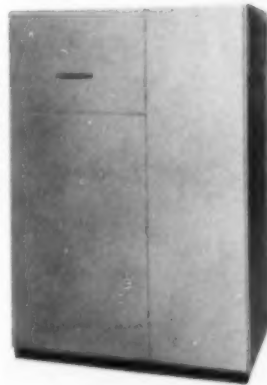
**New GU and OU Units**—for homes without basements, they're "file-cabinet-sized"... gas or oil fired.

**New GH Units**—horizontal, need no floor space! Gas-fired, completely factory assembled with all controls and wiring.



**New OC Units**—specially engineered counter-flow units for perimeter type heating.

**HP Units**—provide completely automatic year-round heating and cooling... waterless, flameless, operate on air and electricity.



**A Bigger-Profit Season For You**





all add-up to the busiest roster of distributors in air conditioning today . . . but they still have time for you



#### ALABAMA

BIRMINGHAM  
Flint Refrigeration Co.  
127 S. 20th Street

#### MOBILE

Associated Equipment Co.  
717 St. Joseph Street

#### ARIZONA

PHOENIX  
Fresco Distributing Co.  
21 East Durango Street

#### ARKANSAS

LITTLE ROCK  
Fagan Air Conditioning Co., Inc.  
900 Center Street

#### CALIFORNIA

BAKERSFIELD  
The Isotherm Co.  
605 Williams St.

#### FRESNO

Air Conditioning Sales, Inc.  
2208 Tuolumne Street

#### INDIO

Frank Cavanaugh's Electrical Service  
45-246 Jackson Street

#### LOS ANGELES

Comfort Distributors Corp.  
1709 W. Eighth St., Rm. 1125

#### COLORADO

DENVER 4  
T. C. Alexander  
1100-06 Champa Street

#### CONNECTICUT

BRIDGEPORT 8  
Air Conditioning Corp. of Connecticut  
41 California Street

#### FLORIDA

MIAMI  
Westinghouse Electric Supply Co.  
3400 N. W. 31st Street

TAMPA 1  
Tampa Armature Works, Inc.  
401 South Morgan Street

#### GEORGIA

ATLANTA  
Raymond Distributing Co.  
156 Rogers Street, N. E.

MACON  
Air-Rite Products Co.  
452 First Street

#### ILLINOIS

CHICAGO 44  
Mid-States Air Cond. Equip., Inc.  
4640 West Washington Blvd.

PEORIA 2  
O'Brien Distributing Co.  
100 Walnut Street

ROCKFORD  
D and F Supply Co.  
604 South Main Street

#### INDIANA

EVANSVILLE  
Evansville Electric Service, Inc.  
1025 Reis Ave.

FORT WAYNE  
Westinghouse Electric Supply Co.  
New U.S. 30 & Meyer Road

GARY  
G. W. Berkheimer, Inc.  
1040 Washington St.

#### INDIANA (Cont.)

INDIANAPOLIS  
G. W. Berkheimer Co.  
610 South New Jersey Street

#### IOWA

DAVENPORT  
Gerke-Robinson Co.  
210-212 E. River St.

#### DES MOINES

Heating Wholesalers Co.  
107 S. W. Second Avenue

#### KANSAS

GREAT BEND  
Wedell Electric Supply Co., Inc.  
1209 Williams Street

#### WICHITA

Hill Electric Air Conditioning, Inc.  
307 Laura Street

#### KENTUCKY

LOUISVILLE 4  
Stewart Distributing Co.  
1019 East Broadway

#### LOUISIANA

NEW ORLEANS 12  
Equitable Equipment Co., Inc.  
410 Camp Street

#### SHREVEPORT

The Dykes Co., Inc.  
1012 Market Street

#### MARYLAND

BALTIMORE 15  
Lloyd E. Mitchell, Inc.  
4650 Reisterstown Road

#### MASSACHUSETTS

BOSTON 10  
Carlson Equipment Co.  
10 High Street

#### MICHIGAN

DETROIT 3  
Temp-Matic Inc.  
12320 Hamilton Avenue

#### GRAND RAPIDS

Westinghouse Electric Supply Co.  
511 Monroe St., N. W.

#### MINNESOTA

MINNEAPOLIS 6  
Thomas Air Conditioning Inc.  
2428 Riverside Avenue

#### MISSISSIPPI

JACKSON  
South Central Htg. & Pibg. Co.  
2666 N. Mill St.

#### MISSOURI

KANSAS CITY 8  
Nash & Co.  
1924 Oak Street

#### ST. LOUIS

Westinghouse Electric Supply Co.  
5049 Fyler Avenue

#### SPRINGFIELD

Paul Mueller Co.  
1616 W. Phelps

#### NEBRASKA

OMAHA 5  
Nash & Co.  
4001 Leavenworth Street

#### NEVADA

RENO  
Saviers Electrical Products Corp.  
640 N. Sierra St., P. O. Box 531

#### NEW JERSEY

CAMDEN  
Borstein Electric Co.  
415 Broadway

#### IRVINGTON

Geiger Air Cond. & Refrig. Co., Inc.  
1381 Springfield Ave.

#### NEW YORK

BUFFALO 2  
Buffalo Electric Co., Inc.  
75 W. Mohawk Street

#### JAMESTOWN

Sans Corporation  
132 Blackstone Ave.

#### NEW YORK 10

Times Appliance Co., Inc.  
353 Fourth Avenue

#### ROCHESTER 9

Vanas & Gottmeier, Inc.  
401 Webster Avenue

#### SCHENECTADY

Jon Tree Sales & Supply Co.  
412 Warren St.

#### NORTH CAROLINA

CHARLOTTE  
Air Conditioning Equipment Co.  
P. O. Box 4095

WINSTON-SALEM  
Wall-Turner Heating & Air Cond. Co.  
487 S. Stratford Road

#### OHIO

CINCINNATI 2  
The Kuempel Co.  
1000 Gilbert Avenue

CLEVELAND 15  
Unit Air Conditioners, Inc.  
2336 Prospect Avenue

#### COLUMBUS 2

The Kuempel Co.  
2572 High Street

#### TOLEDO 4

Air Conditioning Distributors, Inc.  
4322 Garrison Rd.  
PO Box 123

Station H.  
YOUNGSTOWN 3  
Carlson Electric Co.  
121 E. Boardman Street

#### OKLAHOMA

OKLAHOMA CITY  
Air Engineering, Inc.  
26 N. E. 26th St.

#### PENNSYLVANIA

ERIE  
Lakes Engineering Co.  
1316 G. Daniel Baldwin Bldg.

PHILADELPHIA 31  
Raymond Rosen & Co., Inc.  
Parkside & 51st Street

#### PITTSBURGH 1

Aircon & Heating Supply Co., Inc.  
3811 Penn Avenue

WILKES-BARRE  
AirCo Distributing Co.  
20 South Washington Street

#### SOUTH CAROLINA

COLUMBIA  
Clark Heating & Plumbing Supply Co.  
2700 Commerce Drive

#### TENNESSEE

CHATTANOOGA  
Tennessee Engineering Co.  
Division of Lennon Co., Inc.  
1516 E. Main Street

KNOXVILLE  
Indoor Comfort Distributors Co.  
520 Van Street

MEMPHIS 3  
Associated Southern Industries  
1161 Union Avenue

NASHVILLE  
J. L. Perry Co.  
815 Ninth Avenue

#### TEXAS

DALLAS  
Trans-State Supply Co.  
425 South Field

EL PASO  
Fred A. Lankford  
2601 E. Missouri St.

#### HOUSTON

Star Steel Supply Co.  
9411 Alameda

LUBBOCK  
Homer G. Maxey & Co.  
1611 Fourth Street

SAN ANGELO  
Climate Engineering Co.  
2320 Sherwood Way

#### SAN ANTONIO

Byrne, Inc.  
1626 E. Houston St.

#### UTAH

SALT LAKE CITY 1

Williams, Gritton & Wilde  
204 Dooly Boulevard

#### VIRGINIA

NORFOLK  
Stokley's Services, Inc.  
4000 Colley Avenue

#### RICHMOND

Westinghouse Electric Supply Co.

ROANOKE  
Davis H. Elliot Co., Inc.  
11-13 Naval Reserve Ave., S. E.

#### WASHINGTON, D.C.

Combustioneer Corp.  
409 Tenth St., S. W.

#### WASHINGTON

SPOKANE 4

Warren Little & Lund  
W. 609 Second Avenue

#### WEST VIRGINIA

CHARLESTON  
Thrush Refrigeration Co.  
1012 Virginia St., E.

#### WISCONSIN

MILWAUKEE 7

Layton Supply Co.  
924 E. Russell Avenue

Distributors of Commercial and Consumer Products of Westinghouse Electric Corporation, Air Conditioning Division, Staunton, Virginia

**WATCH WESTINGHOUSE!**  
WHERE BIG THINGS ARE HAPPENING FOR YOU!



## What Was New At the Restaurant Show

Pictures on this page are the last from the National Restaurant Show in Chicago. Other pictures were published in the May 21 and 28 issues. For further data on any of these products use the key numbers and the 'Information Center' blank on page 32.



KEY NO. F-610

FOR STORING MEATS next to the griddle stand, Bastian-Blessing Co. showed a pilot model two-temperature refrigerator. Assistant Sales Manager R. H. Berndt (r.) holds open one of three normal temperature self-closing drawers, while telling Stanley Frisch of Frisch Restaurants, Cincinnati about the bulk freezer section above.



KEY NO. F-614

MIDGET "SODAMASTER," self-contained with 20-drink reserve capacity interests Ben F. Greene of Hotel & Restaurant Supply Co., Duluth, Minn. (l.), as Frank Welty, vice president of Carbonic Dispenser, Inc., supplies details.



KEY NO. F-615

"LOWRATOR" mobile refrigerated milk dispenser for cafeteria service is highlighted by American Machine & Foundry Co. Company representatives Jerry Kammerer (l.) and Al Young pose with the new unit.



KEY NO. F-616

IMPROVED MODEL "Jet Spray" non-carbonated beverage dispenser features magnetic drive, enclosed motor, and new drip shelf. J. F. Gibbons of Wichita, Kans. (l.), hears from Ralph Hardy, Jet Spray Corp. representative.



KEY NO. F-617

TWO FLAVORS IN ONE UNIT are featured in the General Equipment Sales Co.'s new "Sani-Serv" soft ice cream machine demonstrated by R. E. Wildman, secretary-treasurer of the company.



KEY NO. F-611

TED CHIDESTER, new field supervisor in the United States and Canada for McCall Refrigerator Corp., poses with McCall's new 45-cu. ft. dual temperature reach-in that operates on a single 3/4-hp. compressor. Compartments are individually controlled.



KEY NO. F-612

IN SEVEN SECONDS and with only two operations, finished ice cream can be drawn from the "Electro-Freezer Super-Shake" freezer, Charles Erickson (l.), president of Port Morris Machine & Tool Works, Inc., demonstrates for Ben Slutsker of Triangle Fixture Co., Cleveland.



KEY NO. F-613

ENGROSSED IN TRAUlsen catalog telling about 40-cu. ft. refrigerated display case shown above are Jerry Sharp of Universal Industries, Chicago (l.), and Alex Schreier of Gold Star Food, Inc. Detroit.

## AN EXCLUSIVE FRANCHISE WITH



## Chip-Freeze AUTOMATIC ICE FLAKER



● no deep reaching!

Sparkling pure chipped ice is always at your WAIST LEVEL.

- Priced below competition!
- Fully automatic!
- Sales-tested selling plant
- Maximum output guaranteed!
- Low installation cost!

### MOST SANITARY UNIT MADE!

New ice is produced at TOP of the CHIP-FREEZE unit so there is no possibility for accumulation or decay of old ice. (Most equipment today has ice storage section at bottom of unit.)

### EXCITING NEW COLORS!

Today, eye appeal is sales appeal! Choose from new decorator colors to harmonize with any interior; any place, anywhere!

### SAVINGS — SAVINGS — SAVINGS

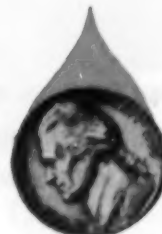
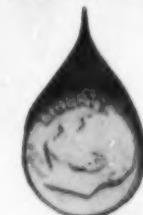
Save up to 95%! Imagine, 560 LBS. PER DAY—ice flakes for as little as 2c per bushel or 6c per hundred lbs. (depending on local power and water rates)! Fills itself automatically as ice is used. Mechanism is easily accessible from front and rear. Machine automatically turns itself on and off.

## COCORA Products COLD CORPORATION of AMERICA

Manufacturers of Ice Making Equipment

1371-89 N. North Branch St. • Chicago 22, Ill. • MI 2-6816

## turns water into money!



You can own the ice-making machine market in your area and show huge profits you never believed could exist in this field! Now you can "turn water into money" in America's fastest growing year-round business with ice-making equipment manufactured by the Cold Corporation of America (Chip-Freeze, Cube-Freeze, Ice Chief, Constant Flow unit!)

### EYE APPEAL, SALES APPEAL, ICE APPEAL for:

- Supermarkets
- Bakeries
- Fresh Produce Markets
- Soda Fountains
- Hotels
- Restaurants
- Fish and Poultry Markets
- Florists
- Retail Stores
- Dairies
- Hospitals
- Clubs

## EXCLUSIVE PROTECTED TERRITORIES NOW AVAILABLE

Write, wire or call today!

### COLD CORPORATION OF AMERICA

AC&RN

1371-89 N. North Branch St. • Chicago 22, Illinois

Gentlemen:

I am interested in knowing more about "CHIP-FREEZE" automatic ice makers.

☐ Dealer ☐ Distributor ☐ Manufacturers' Representative

Others, please specify \_\_\_\_\_

Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

Phone \_\_\_\_\_

Zone \_\_\_\_\_

State \_\_\_\_\_

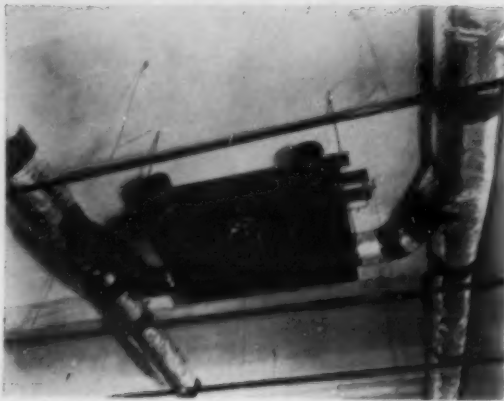


## Up to 4 Diffusers Fed by One High Velocity Attenuator Provide Flexible Air Conditioning for Office Spaces

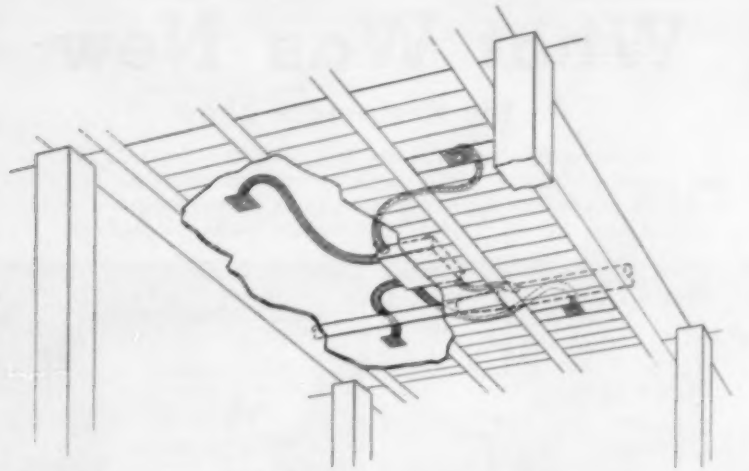
NEW YORK CITY—A new concept of flexible air conditioning for office spaces is providing systems with "built-in futures" in a number of new office buildings where future changes in floor plans may require shifting of outlets, it was reported here recently.

### Flexible Hose 'Octopus' Unit

The "octopus" unit, designed and engineered by the Anemostat Corp. of America allows a single high velocity attenuator to feed up to four diffusers. The diffusers are of the same dimensions as ceiling acoustic panels and are fed from the attenuator through flexible fireproof hose, so that the office space may be



THIS Anemostat octopus unit, installed in the USAA Bldg. in San Antonio, has a standard diffuser outlet for ceiling diffuser. In addition, there are four outlets for the octopus hose, shown sealed and capped.



DEVELOPED primarily to meet the needs of office building tenants, according to Anemostat, in anticipation of possible changes in layout or requirements in individual areas, diffusers are designed to be interchangeable with the modular panels used in ceiling design. Up to four diffusers may be tapped into a single attenuator box, fed through flexible hose

subdivided or re-allocated.

First installations of octopus units have been made in the Socony Mobil building in New York City and in the USAA building in San Antonio.

located on 42nd St. between Lexington and Third Aves., is said to be the largest commercial air conditioned office building in the world.

Principal considerations in designing the air conditioning sys-

tems were: (1) space economy, because the building is located on one of the most valuable pieces of land in the world and

profitable use of all space was therefore necessary; (2) flexibility, to facilitate any changes which may have to be made in the allocation of office space, and in the cooling load existing on each floor. For these reasons, a high velocity system was designed with a number of what are claimed to be unique features.

The use of an all-air high velocity system for the interior zone resulted in major savings, it was noted. The risers which carry the air from the refrigeration plant to the floors require substantially less space than would low velocity risers. Elimination of the main chilled water riser and of local fan rooms effected a further saving, it was added.

### Permits Re-Arrangement With Minimum Trouble

One of the features in this air conditioning system is the octopus unit which will permit re-arrangement of office space with minimum difficulty and will do away with major remodeling jobs caused by changes in tenant requirements. The system provides maximum flexibility for the changing needs of a multi-story building and in addition is more economical, it was stated.

The air diffusion system in the interior zone employs Anemostat octopus type units. There are over 4,000 Anemostat ceiling diffusers fed from approximately 1,200 octopus sound attenuation boxes, with up to four diffusers being supplied from each box.

### Design Chosen To Cut Alteration Costs

This octopus design in the Socony Mobil building was (Concluded on next page)

## New Lightweight All-Angle MonoMotor

# Redmond

## AM-4 MONOMOTOR

4-POLE, Up to 16 Watts



Extra large oil reservoir permanently sealed for LIFETIME LUBRICATION

Here are the outstanding features of this single bearing motor designed specifically for the refrigeration and air conditioning industries and adaptable for a multitude of other applications where a long life quality motor is required.

- 1. Lightweight**—Durable, lightweight metal used in construction makes the AM-4 considerably lighter than conventional old style models.
- 2. All-Angle Operation**—Designed for all-position mounting, vertical shaft up, shaft down, or any angle.
- 3. Interchangeability**—Will accommodate all standard brackets and special mountings.
- 4. New Positive Oil System**—Forced recirculation of oil. 25 cc of lubricant completely suspended and uniformly distributed in pure wool and nylon wicks, permanently sealed, to guarantee against oil leakage in use or shipment.
- 5. Controlled End Play**—Special thrust arrangement accurately controls rotor end play.

**6. Whisper-Quiet**—Smooth, quiet operation assured through use of steel-backed precision bored bearing inserts, uniform air gap, and extremely close manufacturing tolerances.

**7. Tri-Flux® Design**—Greatly increases starting and running torque and improves efficiency over conventional small diameter motors.

**8. Uni-Cast® Construction**—Gives a rugged, lightweight motor that can be manufactured to extremely close tolerances, with stator core frame precision die cast in one piece, registers are machined concentric to the bore to extremely close tolerances.

**9. TWO-YEAR WARRANTY**—Here you have a motor designed to meet modern demands and to give you outstanding performance over years of continuous service-free use. Your assurance of customer satisfaction is backed by Redmond's full two-year warranty.



Send for Complete Performance Data

Write for the "AM-4 Bulletin"—it contains complete information on the design features, dimensions, performance, and operational data.

ADVERTISED IN  
The Sunday Evening  
**POST**

The Standard of Dependability  
**Redmond**  
**COMPANY Inc.**  
OWOSSO, MICHIGAN

THE BIG NAME IN SMALL MOTORS

## ASPIR-JET SPRAY NOZZLES RAISE TOWER EFFICIENCY

The swirling, atomizing action of the water as it goes through the Aspir-Jet means more effective heat transfer and higher efficiency from any spray-filled cooling tower. Pressure as low as 1/2 pound gives effective water break-up and distribution. Formed of butyrate plastic, Aspir-Jets will not corrode.



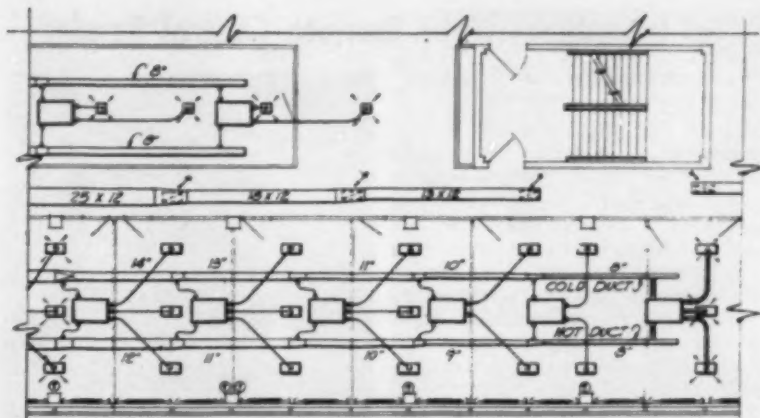
• Available through Refrigeration and Air Conditioning Wholesalers.

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TYPICAL duct layout of a dual duct high velocity system using octopus units in a large office building is shown here. The attenuator box, fed from the hot and cold ducts, mixes supply air in the proper proportion and delivers at low velocities through flexible metal hose to the diffusers. In perimeter office areas, thermostatic control regulates the temperature for the diffuser in each office area.

## Flexible Air Conditioning - -

(Concluded from preceding page) chosen to reduce alteration costs in the event of changes in office layouts, requiring re-allocation of space and possible re-partitioning of areas, according to the company. The modular ceiling design of these units makes it possible to integrate acoustic panels, lighting fixtures, and air conditioning diffusers into a single pattern.

The air conditioning diffuser is similar to a standard Anemostat 12 by 12-in. diffuser, extended into a metal panel, stamped in one piece, with overall measurements of 1 by 4 ft. Like the ceiling acoustic panels, the diffuser rests on 6-in. bands placed at 4-ft. intervals. Connected to the attenuator chamber by fireproofed flexible hose, it may easily be shifted to a new location without shifting the metal ductwork.

Air conditioning system for the interior zone is high velocity of the double duct riser and single duct horizontal type. Air is supplied to each floor from two pairs of risers, one located at each end of the building. On each floor there is a mixing box for each pair of risers, where the proportions of air from the hot and cold ducts are mixed to produce the temperature required for the particular floor.

### Thermostats in Return Ducts Regulate Air Proportion On Each Floor

In the cold riser, the temperature is held constant at 50° F., and air in the hot riser can vary from 64 to 90° F., with a practical maximum of 75° F., depending on outside temperature, it was said. The proportions of air supplied to the mixing box on each floor is regulated by thermostats in the return air ducts.

### Additional Control at Each Attenuator Chamber Added When Necessary

The system was designed so that additional control at each attenuator chamber can be

fully automatic type. The octopus attenuator chambers are initially adjusted to a capacity of 400 c.f.m. or 100 c.f.m. per diffuser, a standard throughout the building, but they can be converted to remote-manual control or thermostatic control if conditions warrant, and are designed to operate satisfactorily at 300 to 500 c.f.m., or 75 to 125 c.f.m. diffuser, engineers said.

The home office building of the United Services Automobile Association in San Antonio was planned to serve the needs of the rapidly expanding firm.

To provide for future subdivision of interior bays into offices, the attenuation units selected were of the Anemostat octopus type, it was explained. In these particular units, in addition to the regular bottom opening for the ceiling diffuser, there are four capped taps at the sides of the box.

### 4-Office Subdivision Changes Explained

Should a typical building bay require future subdivision into as many as four small offices, the standard ceiling diffuser will be removed and its opening in the attenuation box capped off; flexible ducting will be attached to the side taps provided for this purpose and extended to a small attachment box complete with ceiling diffuser located in the center of each subdivided space, according to the firm.

Enough flexible duct, attachment boxes, and ceiling diffusers sized for both half-bay and quarter-bay offices are included in the contract to allow for a reasonable amount of future office subdivision. This work can be quickly done by the building maintenance department.

This arrangement is ideally adapted to the USAA building,

engineers stated, since the future may call for installing business machines with high cooling loads, or for converting filing space to general office space or vice versa. The octopus attenuator boxes provides assurance that any future changes made in the layout of office areas may be accompanied by appropriate variations in the air conditioning system.

### Coleman Plant To Close For Mass Vacation In June

WICHITA, Kan.—The Coleman Co., Inc., has announced that offices and factories here and at La Porte, Ind., will be closed from June 11 through June 24 so that all Coleman employees may take their vacations at one time.

The mass vacation will mark the first time in the Coleman Co.'s 56-year history that the plants completely shut down.



By any other name  
it can't be the same  
as a **MARLEY**  
**Double-Flow Aquatower**

There is absolutely nothing like the Marley Double-Flow Aquatower in the intermediate capacity cooling tower field.

The name itself indicates the design and performance characteristics that make the Double-Flow Aquatower another Marley exclusive. "Double-Flow" denotes the use of patented Marley Double-Flow features developed for Marley industrial cross-flow towers. "Aquatower" suggests the trim appearance, low silhouette and compact design that is characteristic of Marley's famous packaged towers.

Years ahead in design when introduced several years ago, the Double-Flow Aquatower

gained immediate professional acceptance. Engineers were pleased with its high performance . . . architects praised its low-silhouette . . . contractors appreciated the ease with which these towers can be constructed.

Today Double-Flow Aquatowers completely cover the water cooling front for intermediate capacity services. They are available in wood or steel structure with asbestos cement board casing and in single or multi-cell arrangements. Marley Application Engineers in any of 55 cities will gladly help you determine the sizes and models that meet your exact requirements.

**The Marley Company**

Kansas City, Missouri



For more information about products advertised on this page use Information Center, page 32.

U.L. & A.S.M.E. WATER-COOLED CONDENSERS and LIQUID RECEIVERS for EVERY REQUIREMENT **STANDARD REFRIGERATION CO.** 332 S. Hoyne, Dept. C Chicago 12, Ill.

Write for our NEW Catalog



### Individual Control Thermostat Developed

KEY NO. F-618

MINNEAPOLIS—A new thermostat has been developed specifically for hotels, motels, and other buildings which require individual room temperature control during occupancy periods with manual setback of temperature to conserve fuel when the room is vacant.

Developed by Minneapolis-Honeywell Regulator Co., the new low-voltage unit combines two thermostats and a manually-operated "hi-lo" changeover switch

into one compact instrument.

"This makes it easy for maids, bellmen, managers, and others to switch to an economical non-freeze temperature setting when the room is not occupied yet gives guests precise fingertip control over their comfort when they are in the room," the company said. The high setting is adjustable between 67° and 75° F. A snap of the switch at the base of the control changes to a fixed (55°) low setting.

The thermostat—designated T-29B—can be used to control either electric radiator valves in individual room temperature installations or to monitor motors on zone valves.



### Lake Improves Material As Oil Leak Sealer

KEY NO. F-6110

CHICAGO—A new and improved Oyltite-Stik for sealing oil leaks under greater pressure and temperature has been announced by the Lake Chemical Co. here.

This product has proved satisfactory for use on hot oil pipes where pressures up to 75 p.s.i. and temperatures up to 400° F. are encountered, it is stated.

Oyltite-Stik is used to seal cracks, pinholes, rusty parts in welds, etc., in oil tanks, pipes, and containers of all kinds. It is furnished in stick form and simply rubbed across the leaky area.

### Tal Introduces Light Remote Control Bender

KEY NO. F-6112

MILWAUKEE—Tal Co., manufacturer of pipe bending equipment, announced a lightweight 68-lb. "RC" remote control bender.

A "one-shot" bender said to make any degree bend in one setting, available for rigid or pipe conduit, bus bar, and radiant heat, the unit can also be obtained to bend EMT or copper tubing. Used with standard all-purpose frame, it can be had with a pipe straightener, it was added.

To be used anywhere on the job, according to the company, the bender is available with bending shoes for 1 to 2 in., or for ½ to 2 in. It also can be obtained with an electric motor pump. Bending frame has a removable top-plate which permits laying the pipe in



from the top, sliding it in from the side, or hooking the bender over installed pipe, the firm said.

### Adelta Packs Fittings In Corrugated Cartons

KEY NO. F-619

PHILADELPHIA—To make it easier and more economical for jobbers and heating and air conditioning contractors to ship, store, protect, and handle elbows and

angles, Adelta Mfg. Co., Inc. here is now packaging these fittings in sturdy corrugated cartons.

The packaging of these fittings now puts Adelta's complete line in unit cartons.

## MAKE YOUR RESERVATIONS TODAY FOR THE MOST PROFITABLE SHOW ON EARTH

with

**SHANA-Air**  
Water-Cooled and Air-Cooled (waterless)  
**AIR CONDITIONING**

Featuring these star attractions:

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- precision engineering (in compliance with U.L. standards)
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- Shana-Air selling program

**AIR-COOLED SAR and SAAC Series**

Available in 2, 3 and 5 ton capacities

**WATER-COOLED SW Series**

Available in 2-3-4-6 ton capacities

PLUS these additional attractions:

- Shana "Duo" Units
- Combination Units
- Commercial Units
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Shana Manufacturing, Inc. ACRN  
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Please send me additional information about SHANA-AIR air conditioning.

- ☐ Exclusive franchises still available. ☐ Cost of units.  
☐ Description of all air conditioning units manufactured by Shana Manufacturing, Inc.

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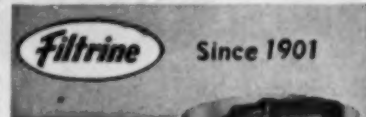
Others—Please Specify \_\_\_\_\_

### Portable Flame Cutting Pipe Beveler Offered

KEY NO. F-6111

TULSA, Okla.—Introduction of a portable flame cutting and pipe beveling machine for small-diameter pipe of 1½ to 4 in. was announced by H & M Pipe Beveling Machine Co.

Model "O" employs the same split-gear horseshoe principle as used on H & M's larger units for pipes up to 36 in., the firm said. The new 7½-lb. model allows its operator to place the machine on continuous pieces of pipe.



**Tank Type**

**WATER COOLERS**

- ◆ Extra-large storage
- ◆ Safety from freeze-up
- ◆ Fast hourly recovery
- ◆ 20-year life construction

Capacities: 5 to 500 g.p.h.  
Storage: 2 to 240 gals.

Water coolers for all uses factory-packaged with your condensing unit. Write for literature.

**FILTRINE MFG COMPANY**

216 W. PROSPECT ST. • WALDWICK, N. J.

### Turner Redesigns Propane Torch

KEY NO. F-6113

SYCAMORE, Ill.—A redesigned propane torch called "Util-i-Torch" has been developed by Turner Brass Works here.

It is a full size torch with regular size fuel tank and burns up to 15 hours on one cylinder of propane at temperatures up to 2,300° F., the company said. Cylinders are disposable.

Util-i-Torch retails for \$4.99 for use in repairs, electrical work, removing paint, and other uses.

### Throatless Electric Shear Announced

KEY NO. F-6114

CHICAGO—Beverly Shear Mfg. Co. recently introduced an electric powered throatless shear to cut any shape in any metal up to 10-gauge mild steel.

Complete within its own base and supporting column, the shear is set at normal working height. It

also may be used as a bench unit by removing the support column.

The eccentrically mounted cutter head of the portable shear imparts a downward-forward motion to the upper blade which shears the metal, the firm said. Cutting to line or template is possible with the operator using both hands.

Throatless design permits turning the metal sheet in any direction during the cutting, the company added.

## Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

### Products Advertised

(list name, page, and issue date)

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### WHAT'S NEW OR CURRENT LITERATURE AVAILABLE

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## Refrigerator Has Hidden 2-Burner Range

—KEY NO. F-6115—

LONG ISLAND CITY, N. Y.—Acme National Refrigeration Co., Inc. here, manufacturer of "packaged kitchens," is offering a refrigerator with a concealed two-burner range.

Acme claims the current American "coffee break" custom led to the development of the "Aristocrat." The unit is ideally suited for the home, office, or den, the company said.

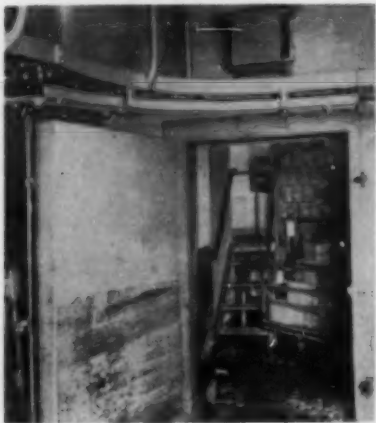
In addition to its other features, the Aristocrat provides a 25-lb. freezer, accommodating nine large ice cube trays.

"Looking like a fine piece of furniture when closed," the unit is available in mahogany, walnut, and blonde.

## Heating Element Ends Walk-In Door Freezing

—KEY NO. F-6116—

PITTSBURGH—Marketed under the trade name "Chromalox Tubular Elements" by Edwin L. Wiegand Co. here is an electric tubular all-metal heating element used inside the door jamb of a walk-in freezer, directly opposite the liner seal, to prevent door liners from freezing to the jamb.



A voltage regulator and on-off switch are located outside the door on this basic unit which, the company claims, can be adapted to nearly any door design and usually requires 200 to 300 w. operating on 115-120 v.

The thin, fully-enclosed element heats up quickly, according to the firm, is shockproof, cannot be penetrated by frost or moisture, and maintains a narrow strip of heated surface at about 40° F.

## Dunhill Bobtail Has Pump for Heavy Syrup



—KEY NO. F-6117—

BROOKLYN—Dunhill Soda Fountain Corp. announced model BT-560 bobtail soda fountain with special duty chocolate pump designed to dispense the heaviest chocolate syrup.

Lever action reduces effort in operation, the company says. Adjustment is provided to regulate amount drawn. Dimensions of the unit are 5½ ft. in length, depth 31 in., and height, 40½ in.

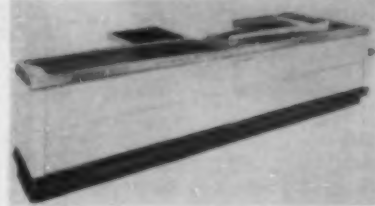
Storage compartment is 10 in. wide by 22 in. high, and 24 in.

deep, according to the manufacturer.

The sink section is one-piece drawn 19-gauge stainless steel tubs measuring 10 by 14 by 10 in. A lever-type combination drain overflow eliminates immersion of hands into the water to release the plug, it was noted.

Accessories include five syrup jars, four syrup pumps, one heavy duty chocolate pump, two crushed fruit jars and covers, one spoon holder, one soda draft arm, one water draft arm, one chipped ice pan, one dipper well, one tilting refuse chute with removable can, and three 10 by 14-in. one-piece drawn sink bowls, the firm added.

A 100% dry instantaneous cooler, with a capacity of 15 g.p.h., is installed in the rear section of the bottle storage compartment. It has separate water, soda, and refrigerant coils cast in aluminum block for protection against freeze-up damage.



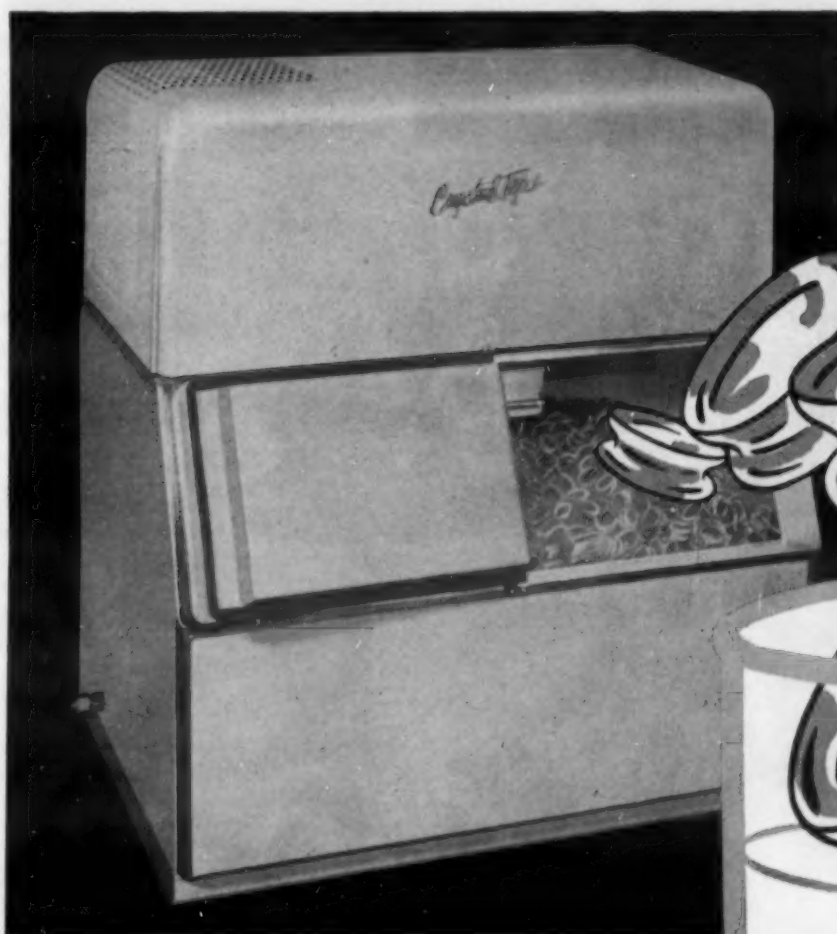
## Hussmann Announces 'Auto-Flo' Checkout

—KEY NO. F-6118—

ST. LOUIS—Hussmann Refrigerator Co. here recently announced development of an "Auto-Flo" checkout for food stores.

Dimensions, bagging facilities, belt lengths, etc., are designed to make checkout operation efficient during peak hours, the company stated.

Ripple panel and over-all styling tie the Auto-Flo in with other Hussmann equipment. Bumper guards protect the finish, and corners, crevices, and seams, provide for easy cleaning.



## 2-IN-1 ICE SERVICE



### PAYS FOR ITSELF... Ends All "Ice Worries!"

You can use your prospects' own records to prove to them that the CRYSTAL TIPS or Chips Automatic Ice Maker will pay for itself in a short time. Many owners get their original investment back in less than a year—after that ice costs them only pennies for water and electricity.

Show them that a CRYSTAL TIPS 2-in-1 Ice Maker provides a constant, full supply of pure, fresh sparkling Tips or Chips—the "cube" size Tips, or by the flip of a switch, the fast cooling Chips. No crusher! No grids! No fuss! No muss! No waiting around for deliveries!

Its versatility, convenience, proved dependability and smart design makes the CRYSTAL TIPS or Chips Ice Maker the leader in the field. Write us for franchise details.

*Crystal Tips or Chips*

**AUTOMATIC ICE MAKER**

**..Saves up to 90¢ out of every dollar spent for delivered ice!**

**AMERICAN AUTOMATIC ICE MACHINE CO.**

1791 FOURTH ST. N. W., FARGO, MINN. A subsidiary of McQuay, Inc. Manufacturers of Heat Transfer Equipment since 1923

For more information about products advertised on this page use Information Center, page 32.

"We have closed many a sale through the help of our Typhoon District Manager," says Roussel and Giroir (left and right), Typhoon's New Orleans dealer.



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FACTORY-DEALER TEAM SET-UP IN THE BUSINESS

**TYPHOON**  
AIR CONDITIONING

- Commercial Air Conditioners, 2 to 30 tons
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Find out how a Typhoon Direct Factory Franchise can make money for you. Send in this coupon today.

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### Emerson Electric Co. Illustrates Fan Line

—KEY NO. R-610—  
ST. LOUIS — Emerson-Electric Mfg. Co. details and illustrates its complete 1956 fan line in the recently released catalog No. X-8149, the company announced.

Fully described in the catalog are 16 and 20-in. electrically reversible models, 20-in. manually reversible window and utility unit, 24 and 30-in. belt-drive models, both reversible and non-reversible, and Emerson two-speed motors.

### B.A.C. Issues Catalog on Cooling Tower Line

—KEY NO. R-611—  
BALTIMORE — Baltimore Air-coil Co. has recently published a 12-page catalog on its new "MT" line of "heavy-duty, quiet-operating" cooling towers.

The catalog covers the complete line—23 sizes from 10 to 400 tons—for air conditioning and refrigeration applications.

The construction and compo-

nents of the units are described in detail, utilizing photographs. New selection charts make it easy to select units under any load conditions, the company noted.

"The model 'MT' cooling tower introduces a new wet deck surface (patent pending) and new sectional construction (patent pending)," it was pointed out. "These features add greatly to flexibility and economy of installation."

### Folder Tells How Jalousies Cut Peak Cooling Loads

—KEY NO. R-612—  
GARDENA, Calif.—Information on the use of exterior sun control jalousies to reduce air conditioning peak loads is contained in a folder distributed by Lemlar Mfg. Co. here.

Details in the folder indicate savings claimed for the units which can be positioned by hand crank, electrically with manual switch, or automatically with electric solar-time controls, the firm said.

### Trion Catalog Details Electronic Air Filters

—KEY NO. R-613—  
MCKEES ROCKS, Pa.—Trion field assembled electronic air cleaners are described in detail in a new 12-page catalog, issued recently by Trion, Inc.

Complete engineering data, size and capacity tables, and component parts description for sizing and specifying are included in Catalog E-61.

Trion electronic air cleaners are installed in ventilating system air returns.

### Day & Night Releases Heating, Cooling Manual

—KEY NO. R-614—  
MONROVIA, Calif.—Day & Night Div., Carrier Corp. recently announced release of its 1956 "Heating & Air Conditioning Manual."

Designed as a guide, it contains sections on heating and cooling load calculation, basic engineering, human comfort, psychometrics,

air distribution systems, and other phases of sizing, estimating, installing, and servicing.

A special section on basic selling examines selling techniques and methods Day & Night has found successful, it was noted. A "24 Hour Load Calculation Form" standardizes and simplifies procedure on load calculation, the firm said.

### Sales-Management Book Explains 'Fresh Approach'

—KEY NO. R-615—  
DAYTON — A new sales-management brochure, "Who's Selling Who?," was recently made available to sales executives by Cappel, MacDonald & Co. here, it was announced.

"A fresh approach to an old sales problem," the booklet is designed to get men to sell, according to the firm. It employs the light touch to sales ideas.

Published by the nation's largest sales-incentive agency, the booklet is meant to aid sales and management executives in evaluating and solving sales problems.

### RBM Bulletin Covers Magnetic Starters

—KEY NO. R-616—  
LOGANSPOUT, Ind.—RBM Div., Essex Wire Corp., offers a new eight-page bulletin (1020) on its complete line of reversing and non-reversing line voltage a.c. magnetic starters.

Construction, application, and engineering specifications pertaining to the various types of starters is included. Also listed are thermal overload relays which are used in conjunction with the starters. Service instructions and a parts list is shown.

### Sectional-Design Condenser Described

—KEY NO. R-617—  
NEW YORK CITY — Niagara Blower Co. has announced a four-page bulletin (No. 130), "Sectional Aeropass Condenser," which shows benefits of new, sectional-design refrigeration condensers for 100 to 240 tons refrigeration capacity and explains their functions with diagrams and installation photographs.

### American Blower Issues Air Conditioning Manual

—KEY NO. R-618—  
DETROIT — Second edition of the firm's Air Conditioning & Engineering Handbook is available from American Blower Corp. here, division of American-Standard Corp.

Priced at \$6, the book is a treatise of the technique of air conditioning and mechanical movement of air and transmission of power for health and comfort of humans.

Included are fundamental principles, laws, and tables, sample calculations, and a compilation of data based on experience of the several authors.

### Recold Catalogs Ceiling Coil

—KEY NO. R-619—  
LOS ANGELES — Refrigeration for applications above 34° F., such as fresh meats, flowers, delicatessen, and dairy products, is outlined in the new Recold catalog covering Refrigeration Engineering, Inc.'s "Supreme" ceiling coil. Catalog 1C6a diagrams and describes the most efficient way to use these coils.

### Bulletin Describes Air Recovery Panels

—KEY NO. R-6110—  
DANBURY, Conn.—New Bulletin 106-D covering Dorrex type G air recovery panels for removal of odors and vaporous impurities from recirculated air in comfort conditioning installations is announced by Connor Engineering Corp. here.

...you get more display with GLASS



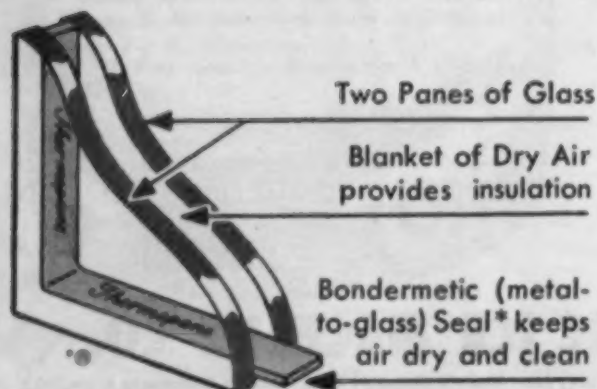
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What customers see, you sell more of...quicker. And for display visibility, combined with insulation, there's nothing better than *Thermopane* insulating glass for refrigerated cases.

These "display windows" signal prospects to come over and buy; they trigger impulse sales. In addition, only *Thermopane* has the famous *Bondermetic Seal* which prevents condensation between the panes. There is no organic material to deteriorate. All these are reasons why leading refrigerated case manufacturers use *Thermopane*...and point with pride to "*Thermopane*" imprinted on the seal between the panes. Next time you buy, look for this imprint. Libbey-Owens-Ford Glass Co., 608 Madison Ave., Toledo 3, Ohio.

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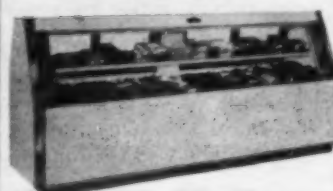


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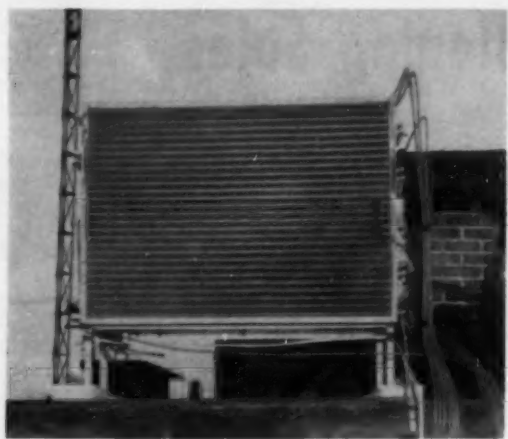
MEAT DISPLAY CASES



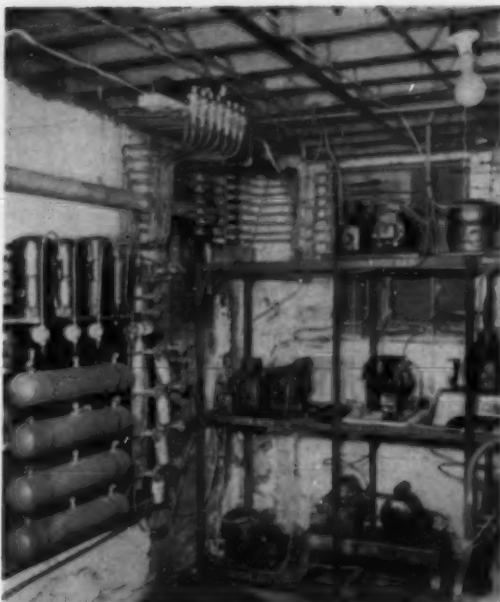
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- ECONOMICAL
- DURABLE
- PROFITABLE

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MONTGOMERY, ALABAMA





OUTSTANDING MODERNIZATION OF refrigeration and air conditioning equipment in a restaurant is the one done for Cantor's Restaurant, in Pittsburgh. Compressors were all brought together and installed in a single area, and then connected to a big Halstead & Mitchell model AC-9 air-cooled condenser, installed on the roof, thereby freeing space and eliminating heat from the restaurant work areas. Tubing connections running from the condenser are shown at the right of the picture.



COMPRESSOR RACK in rear of Cantor's Restaurant saves space through stacking of compressors. Panel board at left was designed by contractor to hold all accessories and for space saving and neatness. Each compressor has individual circuiting through copper tubing lines to the H & M air-cooled condenser.



# FOSTER

ORIGINATOR AND OLDEST CONTINUOUS MANUFACTURER OF REFRIGERATORS AND FREEZERS.  
Designed and engineered for heavy duty performance.

FOSTER BUILDS OVER 200 MODELS OF MATCHED PRODUCTS ONLY ONE TOP QUALITY LINE! NO 2ND OR 3RD LINES!

Whether it's for a hotel, restaurant, school, hospital, or any institutional user — there's a model designed specifically to fit individual needs.

Foster has had long and successful experience in building welded all-aluminum refrigerators and freezers for installations all over the world. They have met every in-the-field test for strength, durability and long life.

Thousands upon thousands of satisfied users know that Foster meets the most exacting specifications, the most critical demands of hard, day to day use, year after year.

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## Some New Equipment, Plus 'Up-To-Date' Thinking, Modernizes Restaurant Setup

PITTSBURGH—One of Halstead & Mitchell's new "Turbo-Flo" air-cooled condensers has permitted a famous Pittsburgh restaurant to add valuable space and comfort to its behind-the-scenes operations.

Cantor's Restaurant, which draws heavily from Pittsburgh's Civic Center residents, found it had acquired, one at a time, a large number of refrigeration and air conditioning units.

Not only did the units take up valuable space, but the radiated heat added to the normal heat and fumes of a busy kitchen, contributing nothing to better personnel relationships.

In order to bring system out of chaos, owners of the restaurant called in a firm of refrigeration and air conditioning contractors, Olsen & Ley.

The contractors glanced at once at the large number of air-cooled and water-cooled units, and as a first step decided to convert to air cooling.

Step number 1 was the build-

ing of a compressor rack to hold all compressors from the air conditioning and various refrigeration units. A panel board to hold all accessories was then wall mounted, and the resultant addition of floor space gave new freedom of movement to restaurant personnel.

A Halstead & Mitchell 9-ton, air-cooled condenser was placed on the roof of the building, and each compressor was connected to the roof unit by means of copper tubing.

This involved eight circuits, and the H & M air-cooled condenser takes care of two  $\frac{3}{4}$  hp., three  $\frac{1}{2}$  hp., and one  $\frac{1}{3}$  hp. compressors operating at 20° F. suction, and one  $\frac{3}{4}$  hp. and one  $\frac{1}{2}$  hp. unit operating at minus 10° F. The air-cooled condenser was placed so as to take maximum advantage of prevailing winds.

The entire work took two men approximately three weeks. The additional space gained in the restaurant and the elimination of heat paid off for Cantor's Restaurant from the very first day the work was completed.

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ELIZABETH, N. J. — Super Store Equipment Co., Inc. recently moved into new quarters at 454 Spring St. here. The old address was 106 Commerce St., Newark, N. J.

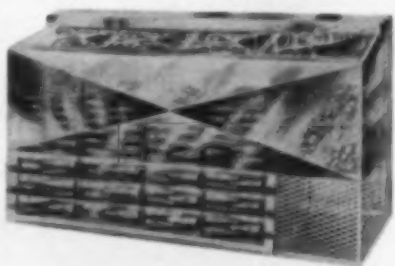
Opened for business in February, 1953, the firm is distributor for Super Cold N.Y. Co. and Federal Refrigerator Mfg. Co. and handles a complete line of commercial refrigeration equipment.

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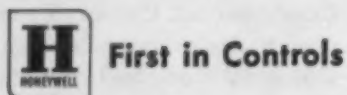


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# MINNEAPOLIS Honeywell



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## Detroit Air Conditioning Sales

'55 Installations Soar 18% over '54 with Record 1,499,  
All-Time High Set In August with 313 Units Installed

DETROIT—Air conditioning installations soared to a new high in Detroit last year.

A total of 1,499 packaged units and condensing units for remote systems were installed during 1955—a gain of 233 units or 18.4% over the 1,266 units which set a record during 1954.

### Gain Largely Due To Home Installations

This gain was made possible to a large degree by residential air conditioning. There were 139 homes air conditioned in Detroit during 1955, compared with 17 in 1954, according to official records.

Data on the installation was obtained by AIR CONDITIONING & REFRIGERATION NEWS through a check of installation permits issued by the city's Department of Buildings and Safety Engineering. The figures apply only

### Where Air Conditioning Was Installed In Detroit In 1954 and 1955

Establishment	1954		1955	
	No.	Hp.	No.	Hp.
Abstract company	2	8	2	8
Advertising agency	5	31	2	8
Airline ticket office	1	5	2	10
Airline office	3	45	2	127 1/2
Apartment house	4	18 1/2	1	3
Appliance dealer	1	3	1	7 1/2
Auto club	11	68	19	147 1/2
Auto rental office	8	33	3	13 1/2
Auto sales room	19	288 1/2	28	286
Bakery	1	5	1	3
Bank	8	21	9	34 1/2
Banquet room	1	5	21	83 1/2
Barber shop	16	54	1	10
Barber supply office	2	5	1	3
Beauty parlor	4	90	3	47 1/2
Beauty school	3	15	1	8
Beer store	1	3	1	7 1/2
Board of Education	2	10	2	8
Bowling alley	7	35	1	5
Boy's store	3	20 1/2	1	3
Brewery	1	3	1	2
Brick company office	2	11	1	5
Bridal shop	5	27	1	3
Building contractor	3	15	3	148
Bus drivers' dormitory	7	108 1/2	18	86 1/2
Cafeteria	2	10	8	40 1/2
Candy store	19	82	6	75
Carpeting store	14	89	1	3
Chemical company	1	15	17	51
Child's wear shop	1	3	2	32
Church	7	108 1/2	1	5
Cigar store	2	10	1	3
Clinic	19	82	2	227
Clothing store	14	89	2	50
Club	1	15	28	113
Coal company	1	3	1	3
Commercial (unspecified)	17	51	30	147
Confectionery	2	32	3	25
Conference room	2	20	1	7 1/2
Construction company	3	18	60	519
Convent	1	17 1/2	1	5
Dairy bar	1	3	5	21
Dairy office	2	12 1/2	2	10
Dance studio	4	25	2	8
Delicatessen	2	6	7	227
Dental office	6	30	2	50
Department store	5	67 1/2	28	113
Dime store	2	102 1/2	1	3
Doctor's office	18	68	9	98 1/2
Drafting room	2	15	1	81 1/2
Drapery shop	13	83	30	147
Dress shop	2	30	3	25
Drug manufacturer	33	155	1	7 1/2
Drugstore	5	25 1/2	60	519
Dry goods store	5	25 1/2	1	3
Eye clinic	83	665	14	180
Factory or factory office	4	32 1/2	1	3
Film studio	3	9	5	27 1/2
First aid room	8	53	2	12 1/2
Florist	3	6	1	3
Food wholesaler	9	59	6	26 1/2
Funeral home	3	15	14	180
Fur store	9	62 1/2	1	3
Furniture store	1	10	5	27 1/2
Gift shop	2	15	2	12 1/2
Hall	1	50	1	3
Hardware store	1	50	1	3
Health club	1	50	1	3

### Detroit Sales by Month For Past 4 Years

Month	1952	1953	1954	1955
January	17	28	42	50
February	30	42	38	45
March	43	61	107	102
April	43	76	105	73
May	48	171	186	144
June	71	124	153	166
July	122	257	237	218
August	111	215	153	313
September	57	74	104	181
October	47	64	80	92
November	64	65	33	43
December	23	46	29	72
Total	676	1,223	1,266	1,499

### Detroit Sales by Size For Past 3 Years

Size In Hp.	1953	1954	1955
Under 3"	79	89	160
3	234	272	410
5	467	513	502
7 1/2	274	262	290
10	56	53	49
15	46	21	34
20	5	14	10
25	16	8	12
30	8	7	10
40	15	13	12
50	11	12	6
60	2	2	1
75	2	2	2
100	2	1	1
Over 100	8	1	1
Total	1,223	1,266	1,499

\*Includes only those units for which installation permits are required by law.

to the city of Detroit proper; installations in suburbs are not included. It is thought, however, that the Detroit figures probably represent about two-

(Continued on next page)

(Concluded on next page)



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# Chrysler



(Concluded from preceding page)

Establishment	1954		1955	
	No.	Hp.	No.	Hp.
Health food store	.....	.....	1	5
Hospital	35	176	30	126
Hospital operating room	1	5	1	5
Hotel	9	271½	7	140
Insurance office	12	74	5	45½
Investment office	.....	.....	1	5
Jewelry store	4	18½	4	30
Laboratory	8	33½	4	50
Language school	.....	.....	1	5
Laundry	.....	.....	1	5
Law office	12	47½	1	5
Library	.....	.....	2	35
Linoleum store	.....	.....	1	10
Liquor distributor	.....	.....	1	5
Loan company	3	12½	7	47½
Luggage shop	.....	.....	2	20
Lumber company	.....	.....	1	5
Market	58	791½	32	563½
Masonic temple	.....	.....	1	3
Meat market	2	17½	.....	.....
Men's store	3	11	7	38
Metal products office	.....	.....	1	27½
Metal shop	.....	.....	2	7
Millinery shop	2	10	.....	.....
Motel	2	30	2	35
Newspaper Office	2	12½	.....	.....
Office	281	2,054	184	1,934½
Office equipment sales	.....	.....	1	10
Oil company office	.....	.....	1	50
Packing house	.....	.....	1	5
Paint company office	.....	.....	1	10
Peanut company office	.....	.....	1	17½
Photo-engraver	1	5	.....	.....
Photo laboratory	1	3	.....	.....
Physiotherapy room	.....	.....	1	1
Police station	.....	.....	1	25
Poultry processing	1	3	.....	.....
Printer	.....	.....	1	5
Radio studio	.....	.....	2	10
Railroad office	.....	.....	1	5
Reading room	.....	.....	1	5
Realty office	.....	.....	5	21
Record distributor	.....	.....	1	15
Record shop	.....	.....	1	3
Recreation room	.....	.....	1	7½
Reducing salon	.....	.....	3	17½
Residence	17	61	139	392½
Restaurant	107	720	85	658
Rubber company office	.....	.....	1	60
Salt company office	.....	.....	1	4
Sausage manufacturer	.....	.....	1	3
Scalp clinic	.....	.....	1	3
School	.....	.....	1	3
Shoe store	15	86	14	79½
Showroom	.....	.....	1	5
Sign company	.....	.....	1	3
Soup company	.....	.....	1	3
Sporting goods store	1	5	1	5
Sportswear store	1	5	.....	.....
Stationers	.....	.....	2	10
Steamship ticket office	1	3	.....	.....
Steel company	.....	.....	1	22½
Storage	1	3	1	5
Store	56	338½	18	227
Supply company	.....	.....	1	3
Surgical supplies	.....	.....	1	5
Tabulating room	1	5	.....	.....
Tailor	.....	.....	1	5
Tavern	74	456	69	448
Tax office	.....	.....	1	7½
Telephone office	1	7½	3	22½
Theater	4	57½	3	23
Tool company	.....	.....	3	28½
Trailer sales	.....	.....	1	7½
Trucking company office	2	39½	2	8
Typesetting shop	.....	.....	1	80
Union hall	.....	.....	1	45
Union office	5	46	.....	.....
University	.....	.....	1	30
Utility office	1	5	1	25
Veterinarian	1	3	.....	.....
X-ray laboratory	.....	.....	1	3
Yacht club	.....	.....	1	5
Total	1,122	8,258	1,216	9,000½

## Detroit Conditioning Sales--

(Continued from preceding page) the year but was the largest in thirds or more of the entire metropolitan area.

The Detroit figures do not include window units except for a few installations in hospitals, etc., where the law requires permits and inspection.

Information obtained from the permits has been tabulated five ways: (1) sales by month for the years 1952 through 1955, (2) sales by size for 1953, 1954, and 1955, (3) sales by make for 1955, (4) sales by contractor for 1955, and (5) where the installations were made in 1954 and 1955.

### August High for Year, Sets Monthly Record

In the table analyzing installations by month for the past four years, it will be noted that August, 1955, with 313 jobs was not only the biggest month of

the year but was the largest in Detroit's history. Heretofore that record had been held by July of 1953 with 257 installations.

Second biggest month during 1955 was July with 218 installations. In all, there were six months during 1955 when installations topped 100. Besides July and August, March had 102; May, 144; June, 166; September, 181.

Installations not only got off to a fairly good start in 1955 but held up well to the end of the year. There were, for example, 92 in October, 43 in November, and 72 in December.

### 5-Hp. Unit Still Leads, 502 Installed in '55

The tabulation showing installations by size for the past three years (1953, 1954, and 1955) indicates that the 5-hp.

unit continues to be the leader. The 502 units of 5 hp. represent one third of the total of 1,499. The figure of 502, however, is down slightly from the 513 5-hp. units listed for 1954.

### Biggest Gain Chalked Up by 3-Hp. Units

Biggest gain in 1955 was chalked up by 3-hp. units. There were 410 of this size compared with 272 in 1954. Units under 3 hp. also came up sharply last year, being represented by 160 compared to 89 in 1954.

Some of the gain in 3 hp. and under 3-hp. units may be attributed to residential air conditioning, but the increase in these two size classifications was considerably more than the gain in residential jobs in 1955 compared with 1954.

Increases over 1954 were also noted in 7½ hp., 15 hp., 25 hp., 30 hp., 75 hp., and 100 hp., while there were fewer 10's, (Concluded on next page)



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**2. KEEP SCALE FROM FORMING.** Micromet® Plates are the simplest and most economical way to keep scale from ever getting a start.

Micromet Plates are placed in a glass mesh feeding bag, and the bag is put in the recirculating water or placed in the sump. That's all there is to it, and a single charge will last all season in most systems.

**3. GET RID OF ALGAE!** Algae or organic growths in cooling towers are easily taken care of by Calgon Algacide. New formula Calgon Algacide has greater killing power. This means that you can use smaller quantities of Algacide, and each treatment costs less.

See your refrigeration wholesaler for Calgon's Big Three!

**CALGON, INC.** A SUBSIDIARY OF HAGAN CORPORATION  
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**AIR FRESHENER AND  
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- Solves odor and air freshening problems even in areas affected by industrial pollution.
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Detroit Sales Set Record --

(Concluded from preceding page) 20's, 50's, and 60's installed in 1955.

9,009 1/2 Hp. Represented In 1,499 Installations

The 1,499 installations in 1955 represent 9,009 1/2 hp. The 1,266 jobs of 1954 were figured as 8,258 hp. The 9,009 1/2 hp. of 1955 is not a record for Detroit, however. The year 1953 saw 13,581 1/2 hp. installed in Detroit even though only 1,223 units were involved.

Listed in another table is a comparison of 1955 Detroit installations by make. A total of 42 different makes are represented. This is a gain of 10 over the 32 listed in 1954 and obviously is the result of newcomers having entered the air conditioning industry.

The 11 makes which may be

considered as newcomers to the field, representing 26% of the 42 makes involved, garnered a combined total of 140 installations or 9.3% of the 1,499 jobs. One of these, however, is credited with 57 installations; another with 37.

279 Make 1 Units Sold Totalling 1,615 Hp.

At the top of the list is Make No. 1 with 279 units and 1,615 hp. Running a close second is Make No. 2 with 267 units and 1,348 hp. Farther behind in third place is Make No. 3 with 191 installations and 1,055 hp. Fourth is Make No. 4 with 188 units and 1,329 hp. There's a considerable drop to Make No. 5 with 123 units and 686 1/2 hp., and likewise to No. 6 with 59 units and 399 hp.

At the low end of the list

there are eight makes with one unit each; two with two each; four with three each, and three with four each.

There is fairly close correlation between number of units and total horsepower among the top six makes, although it is noted that Make No. 4 has almost as much horsepower as Make No. 2 with considerably fewer units.

In the middle range, however, fairly wide differences show up in comparing units and horsepower of various makes. Make No. 9, for example, has 37 units and 95 hp. while Make No. 11's 27 units represent 525 1/2 hp.

Incidentally, the make in first place in 1955 has two less units to its credit than the No. 1 make in 1954, and the No. 2 make in 1955 with 267 units is far ahead of the No. 2 make in 1954, which had 195 units.

The breakdown of installations according to contractor shows that 89 different contrac-

How Makes Compare In 1955 Detroit Sales

Make	No. Units	Hp.
1	279	1,615
2	267	1,348
3	191	1,055
4	188	1,329
5	123	686 1/2
6	59	399
7	57	168
8	48	468
9	37	95
10	36	228
11	27	525 1/2
12	22	338
13	22	28 1/2
14	20	131
15	13	83
16	12	65
17	10	15
18	9	31
19	8	47
20	7	23
21	6	26
22	6	5
23	6	5
24	5	25
25	5	25
26	4	105
27	4	16
28	4	4
29	3	15
30	3	13
31	3	13
32	3	8
33	2	6
34	2	6
35	1	20
36	1	15
37	1	5
38	1	5
39	1	5
40	1	3
41	1	3
42	1	3
Total	1,499	9,009 1/2

How 89 Contractors Shared Installations

Contractor	No. Units	Hp.
1	117	966
2	111	528 1/2
3	99	643
4	99	353 1/2
5	98	461
6	69	417
7	68	506
8	67	281 1/2
9	60	281
10	50	250 1/2
11	48	212 1/2
12	47	314
13	45	396
14	39	112
15	32	169
16	31	461
17	28	65 1/2
18	27	129
19	22	140 1/2
20	21	135 1/2
21	19	115
22	19	91
23	18	96
24	15	59 1/2
25	13	102
26	12	54 1/2
27	11	56 1/2
28	11	56 1/2
29	11	45
30	10	91
31	10	40 1/2
32	9	243
33	9	55 1/2
34	9	31
35	8	40
36	7	40
37	6	29
38	6	12
39	5	135
40	5	90
41	5	30 1/2
42	5	30 1/2
43	5	27 1/2
44	5	19 1/2
45	5	19
46	4	45
47	4	18
48	4	17
49	4	14
50	4	14
51	4	14
52	3	20
53	3	17 1/2
54	3	17 1/2
55	3	9
56	2	110
57	2	12 1/2
58	2	10
59	2	10
60	2	10
61	2	8
62	2	8
63	2	8
64	2	6 1/2
65	2	6
66	2	6
67	2	6
68	2	5
69	1	15
70	1	7 1/2
71	1	7 1/2
72	1	7 1/2
73	1	7 1/2
74	1	5
75	1	5
76	1	5
77	1	5
78	1	5
79	1	5
80	1	5
81	1	5
82	1	5
83	1	5
84	1	5
85	1	3
86	1	3
87	1	3
88	1	3
89	1	3
Total	1,499	9,009 1/2

tors installed air conditioning in Detroit during 1955. This compares with 75 who were involved in the 1954 installations.

Top Contractor Installs 117 Units at 966 Hp.

Top contractor in 1955 installed 117 units, which represented 966 hp. Leading contractor in 1954 was credited with 157 units, and even those in second and third place with 134 and 118 units, respectively, in 1954 had more jobs than contractor No. 1 in 1955.

The 1955 tabulation shows that contractor No. 2 had 111 units for 528 1/2 hp.; No. 3 had 99 units for 643 hp.; No. 4 had 99 units also for 353 1/2 hp.; No. 5 had 98 units for 461 hp.

At the opposite end of the list we find 21 contractors with one unit apiece, 13 with two each, four with three each, and five with four each.

10% of Contractors Do Half the Business

Despite the drop in installations made by the top contractors in 1955 and the activities of 14 more contractors than were noted in 1954, the pattern of the top 10% of the contractors doing half the business holds true for the 1955 Detroit installations.

The top nine contractors in 1955, which represent 10.1% of the total, installed a combined total of 788 units for 52.6% of the total.

In comparing installations of the contractors there is less correlation between number of units and equivalent horsepower than with the makes. Contractor No. 1, however, does have the most horsepower with 966. But there is considerable variation in this respect among most of the other contractors listed.

Final tabulation of the Detroit air conditioning data shows, as far as possible, the type of establishment where the units were installed in 1954 and 1955.

This shows that 1,216 different establishments had air conditioning installed in 1955, compared with 1,122 in 1954.

As usual, the "office" classification is largest with 184 units

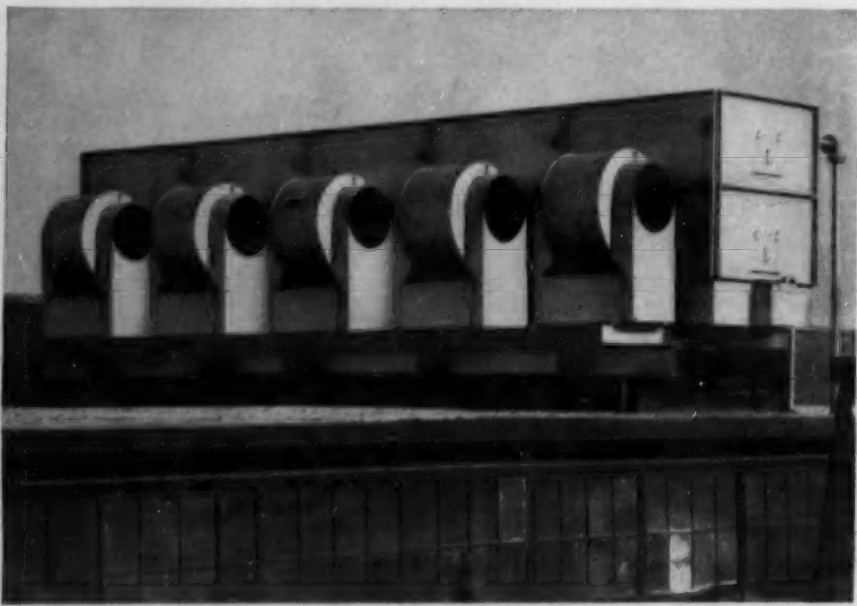
and 1,934 1/2 hp. Total installations in offices actually ran considerably more than this, as can be noted in table which specifies the type of office wherever this data is listed on the permits.

It could also be assumed that 208 establishments designated as "commercial (unspecified)" include a good many office jobs.

Residences Rise Sharply To Rank Second with 139 Installations

Residences rank next to offices with 139 installations. This represents a sharp increase over the 17 listed in 1954. The figure of 17 for 1954 may be misleading, however, because some authorities believe more air conditioning than that was installed in Detroit homes during 1954 but several contractors overlooked the requirements for permits.

Other big buyers of air conditioning in 1955 included restaurants (85), taverns (69), banks (28), doctors (28), drugstores (30), factories or factory offices (60), hospitals (30), and markets (32).



Victor Mfg. & Gasket Company says:

"Binks Cooling Tower keeps mill rolls within 5° F. tolerances..."

"We are extremely pleased with the high efficiency of the Binks Cooling Tower," reports Mr. Hilary Torchal, Plant Engineer, Victor Mfg. & Gasket Co., Chicago. This internationally-known manufacturer of gaskets, oil seals and packings recently installed a Binks Series 3-B Mechanical Draft Cooling Tower when its mixing and milling department was enlarged.

"Finding the right cooling equipment for the machinery in this department was very important to us. In laminating molded synthetic rubber on the rolling mills, great frictional heat is generated. And if the surface temperature of the rolls rises as little as 5° the rubber may adhere to the rolls. If this occurs, the batch is ruined.

"Since we installed the Binks Tower not a single batch of material has been spoiled because of adhesion. They are so efficient in transferring heat from the water sprayed inside these rolls that the temperature is always maintained at a safe level. And because the cooling water is re-circulated, we no longer are bothered by unexpected water pressure drops."

Binks Series 3-B towers are modern forced-draft units using a dry blower air propulsion system. The towers obtain high cooling efficiency by thorough water break-up combined with internal redwood nailless decking. Counter-current operation moves air in the opposite direction to water flow.

"Whisper-quiet" performance permits the use of this type of tower by hotels and hospitals, and by firms located in crowded residential areas.

Another important feature of the Series 3-B Tower is its low silhouette, 7'6" overall height, plus the underlying supporting foundation. In many cases, these towers can be placed to be seldom visible from the street level.

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Binks manufactures cooling towers of all types and capacities...from small residential-types of 3 gpm to giant towers of 15,000 gpm. To help you get the right tower, a Binks engineer will study your needs and submit proposals without obligation. For complete details write to the address below:



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Robert L. Tyler (left), president, Les Hickox and Sam West, Tyler Refrigeration Corp., Niles, Mich., inspect scale model layout of "American Way Supermarket" in the company's store planning department. Completely equipped with Tyler food refrigeration equipment and shelving, the "American Way Supermarket" will serve as a showpiece of the Third International Congress of Food Distribution and the International Association of Food Chains in Rome, June 17-24. A project of the Foreign Agriculture Service, U. S. Department of Agriculture in cooperation with the National Association of Food Chains, Tyler is one of more than 600 American manufacturers invited to supply equipment, fixtures, supplies, and merchandise for the exhibit. Tyler, Hickox, and West are expected to be in Rome to supervise the installation of their firm's equipment.

## Tyler To Supply Commercial Fixtures For American Way Exhibit In Rome, Italy

NILES, Mich.—Tyler Refrigeration Corp. has been selected to supply the complete installation of commercial food refrigeration equipment and shelving for the "American Way Supermarket" exhibit in Rome, Italy, it was announced by Robert L. Tyler, president.

The American Way Supermarket, a replica of that "modern marketing miracle"—the food store now so well known in every home community in the United States—will be completely equipped and stocked, and will serve as a showpiece of the Third International Congress of Food Distribution and the meeting of the International Association of Food Chains which will gather in Rome June 17 to 24.

The exhibit has been organized by the National Association of Food Chains as a public service project in cooperation with the United States Government's international trade fair program.

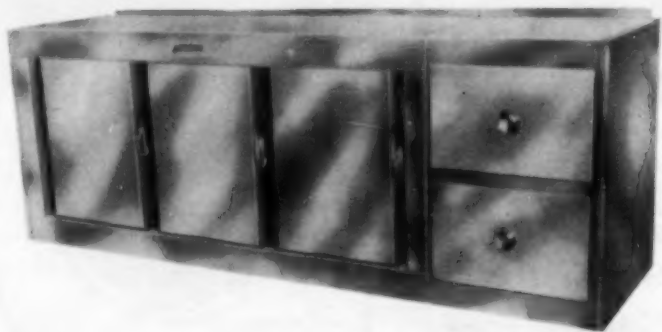
All equipment, fixtures, supplies, and merchandise for

the American Way Supermarket will be supplied by more than 600 American manufacturers without cost to the government.

As part of this joint, cooperative effort, Tyler Refrigeration will supply 32 ft. open produce "Sales-Cases"; 20 ft. open meat Sales-Cases; 12 ft. frozen meat Sales-Cases; 8 ft. "Rolling-Cold" refrigerated meat packaging conveyors; 20 ft. multiple-shelf dairy Sales-Cases; walk-in produce cooler; walk-in meat cooler; walk-in storage freezer; "Scotch 4-Some" condensing unit assemblies; and the complete installation of "Tyler-Air-line" adjustable metal shelving for the market.

### Seek Bids on Cooling

ST. LOUIS—St. Louis Area Support Center has advertised for bids for air conditioning six rooms in Building 4, complete with cooling tower and electric wiring, piping, ducts, and concrete work.



First in the new PEERLESS "Flush Door Series"—Model BBR-10, multi-purpose Back Counter Refrigerator. Manufactured with optional non-refrigerated drawer compartment. Finished in gleaming Stainless Steel front, aluminum ends and interior. New "Flush Doors" add extra aisle space, that is always needed. Available in two different widths and four different lengths.

## PEERLESS EQUIPMENT SALES CO.

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## Drug Chain Installs Refrigerated Cases For Grocery Items

CHICAGO—Two 12-ft. refrigerated cases are being used by a branch of the Stineway drug chain in an experiment in food merchandising.

One is an open refrigerator counter displaying milk, eggs, whipping cream, cottage cheese, prepackaged sliced cheeses, and meats, including bologna, salami, and frankfurters.

The other is a frozen food case containing such items as chicken and turkey pies, chop suey, TV dinners, ice cream, pies, cakes, juices, and vegetables.

Foods which do not require refrigeration are stocked on shelves above the cases. Some of these are canned sardines, bread, cookies, coffee cake, and "Crisco."

The South Side store, located at 71st and Jeffery, is the chain's first self-service branch in this area.

The concern reportedly intends to install similar counters in other self-service units which it will open in Chicago suburbs in the future.

Stating that response thus far to the new food department has been satisfactory, a store spokesman said the section has proved effective in building traffic. Food prices are in line with those in neighboring supermarkets.

Acknowledging that the branch is competing with the supers, the spokesman pointed out that "They've taken on a lot of the merchandise we sell and are competing with us."

## Little Heads McCray National Accounts Div. Young Named Assistant



P. L. YOUNG



J. E. LITTLE

KENDALLVILLE, Ind.—Addition of a National Accounts Div. as a part of the expanding sales program of the McCray Refrigerator Co., Inc., has been announced by Hugh E. Cooper, general manager of sales.

The new division will be under the direction of J. E. Little with P. L. Young as his assistant.

For eight years Little was associated with the McCray Export Dept. In 1953 he was moved into the home office as Canadian district sales manager and for the past year, along with his other duties, he has been active in the development of the national accounts program.

Paul Young joined the McCray sales department in June 1947 as sales correspondent for the export department. Along with his export work during this period he has also handled home office contacts with Canadian distributors and, at one time or another, with many of the domestic districts.

## Jennings Names Distributor for Automatic Milk Vendor

CHICAGO—The "world's largest manufacturer of homogenizers" has been named a distributor of the Jennings automatic milk vendor for the New England states.

The firm is Manton-Gaulin Mfg. Co., Inc., of Everett, Mass. J. K. Colony, vice president and treasurer, disclosed he has set up a special sales division, headed by C. A. Dodge, for the vendor.

The milk vendor, produced by Jennings & Co., Chicago, is a coin-operated unit to supplement dairy delivery in large apartment dwellings and to provide auxiliary "salesmen" in supermarkets, groceries, and outside locations.

Manton-Gaulin will handle distribution in Maine, Vermont,

New Hampshire, Massachusetts, Connecticut, and Rhode Island. It is the tenth distributor selected in the nation and the second in the New England territory.

All the distributors are dairy industry suppliers.

## Newark, N.J. Adopts Milk Vendor Ordinance

NEWARK, N. J.—An ordinance to license and set standards of operation of automatic milk vending machines was recently adopted here by City Council.

Passage of the ordinance was urged by the Automatic Merchandisers Association through its attorney who said the licensing law would give the city proper control over the vending machines.

Dr. Aaron H. Haskin, city health officer, recommended the ordinance, it was explained by the council.

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# Emergency Diagnosis, Repair of Hermetic Unit Electrical Components (3)

## Motor Load Effect on Induced Voltages, Check For Open and Grounded Circuits, Resistances

There's absolutely no need for a serviceman to be stumped by electrical troubles on hermetic units, points out John L. Zant, representative of Copeland Refrigerator Corp. With a little effort the serviceman can learn what each component of the electrical circuit is supposed to do and how to diagnose difficulties.

In giving the following talk and demonstration before various groups Zant not only explains the functions of the electrical components but also reveals some temporary repairs that can be used in emergency.

This is the third instalment of Zant's discussion.

By John L. Zant, Copeland Refrigeration Corp.

### 8. Effect of motor load on the holding coil of the relay induced voltages.

Although this motor-compressor is rated 230 volts, within this system are voltages considerably in excess of the line voltage. The reason for this is the induced voltage in the starting winding. Referring to the wiring diagram (Fig. 2) you will note

the holding coil of the relay (potential type relay) is connected across, or in parallel, with the starting winding terminals ("C" and "S"). As the motor accelerates on starting, the terminal voltage of the starting winding rapidly increases and goes well above the line voltage before the motor gets up to normal operating speed.

### Voltage Climbs to 330 V.

#### Before Relay Contacts Open

In this particular case the voltage actually climbs to 330 volts before the relay contacts open. In other words, the relay incorporated in this 1-hp. system opens when the voltage applied to the holding coil attains 330 volts. It is at this point that the magnetic attraction of the holding coil overcomes the force of a spring tending to hold the contacts together. So as the voltage imposed on the holding coil reaches 330, the armature of the relay is lifted, breaking the contacts and taking the starting capacitor out of the circuit. When the starting capacitor is taken out of the circuit the induced voltage in the starting winding drops back.

In this case you will note the voltmeter on the panel which is now connected across the starting winding terminal reads 280 volts. However, although it takes 330 volts to cause the contacts to part, it takes only 100 volts to hold the contacts open.

An even greater voltage occurs across the outside terminals of the motor ("R" and

"S"). Following the wiring diagram you will note the running capacitor is connected across these same terminals. Therefore, we will now throw our selector switch and our voltmeter will read the voltage imposed on the running capacitor. Voltmeter reads 360 volts.

We will now record the voltages imposed on the relay holding coil and the running capacitor for both heavy and light motor loads. For a heavy load we will elevate the suction and discharge pressure. For a light load we will reduce them and then for a minimum load we will close off the suction shut-off valve completely.

The data recorded is given in Table 1.

These induced voltages increase considerably as the motor load is reduced. They will also increase with a rise in line voltage. Where high line voltage causes the most trouble, therefore, is in application where the motor load is light, such as with very low evaporating temperatures.

### Frequent Burn-Out May Be Due to High Line Voltage

Thus, if frequent burn-out of the relay or running capacitor is experienced, check for excessively high line voltage. The important time to check for high line voltage is when the motor load is at a minimum—usually just before the control cut-out point is reached.

### 9. Checking for open and grounded circuits.

If a motor-compressor will not start or attempts to start and trips the overload, the trouble may be due to any one of a number of things. Several of the possible causes such as low voltage, defective relay, or defective starting capacitor have been covered previously. If it is not certain that one of the previously mentioned items is the cause of the trouble and it is suspected that motor failure has occurred, this can usually be ascertained by one of the following tests which I will demonstrate.

Every serviceman should have a test cord which can be plugged into a 115-volt receptacle, in-

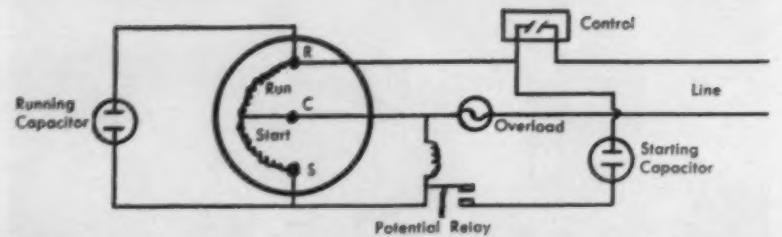


FIG. 2—This wiring diagram is typical of integral horsepower single-phase hermetic units.

TABLE 1

Suction Pressure	Discharge Pressure	Current (Amps)	Line Volts	-Induced Voltages- Relay Coil	Run. Cap.
25 p.s.i.g.	200 p.s.i.g.	9.7	228	230	300
0 p.s.i.g.	100 p.s.i.g.	4.7	230	280	360
25 Hg. (vacuum)	75 p.s.i.g.	3.3	232	300	395

corporating a light bulb and test probes as illustrated in Fig. 3.

Using this test cord, continuity and ground checks of the motor, wiring, etc., can be easily made. As the cord is plugged into a 115-volt receptable the bulb will light up whenever the test probes are (Continued on next page)

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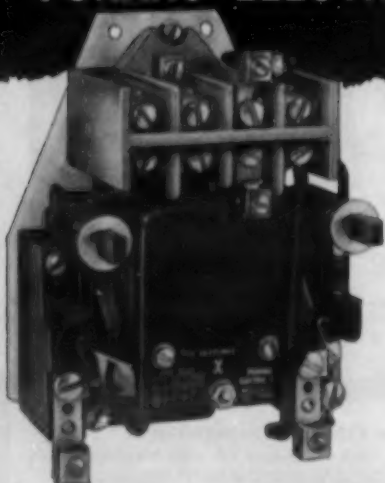
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## Electrical Components--

(Continued from preceding page) applied to any closed circuit. If the test probes are touched to the running winding terminals, for example, the bulb should light. If it does not light it indicates an open circuit in the winding.

### Precautions To Follow

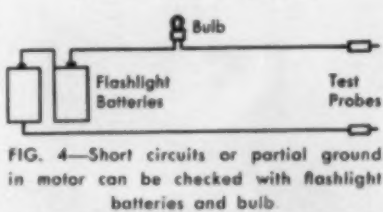
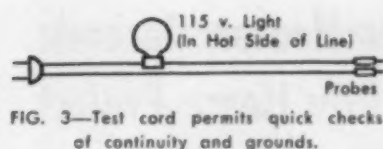
Before making any such tests on a motor-compressor, however, these precautions should be taken: (a) Remove all wires from the motor terminals, and (b) determine which side of the 115-volt supply line is "hot" and apply the cord cap to the receptacle so the conductor going to the light bulb is the "hot" side of the line.

To make sure of this, plug in the test cord and touch the probe from the light bulb only

to a water pipe or other ground. If the light does not light, pull the plug, reverse it, and re-insert it. It should then light. This probe only should then be applied to the motor terminals for continuity or grounded winding checks. To test for a grounded winding, touch the "hot" probe (from light bulb) to the "C" motor terminal and the other probe to the compressor body casting. If the bulb lights, it indicates a grounded winding.

### Touch Probe To 'Hot' Side of Line

Usually a ground wire is attached to the fixture or condensing unit, as it always should be, to prevent a person getting an electrical shock in case any of the wiring or the motor should



develop a leakage to ground. For this reason, we must be sure the probe touched to the motor terminals is the "hot" side of the line and going through the light bulb to get a true test.

One can readily see that if these probes were reversed and the "hot" probe touched to the compressor casting, the bulb would light whether or not the winding was grounded and whether or not the other probe was touched to the motor terminal.

Compressors have been incorrectly condemned as being grounded because the serviceman was not aware of the fact that for a true test the light bulb had to be in the "hot" side of the circuit and the "hot" probe be the one touched to the motor terminal.

### 10. Checking motor winding resistances.

The preceding check of a motor winding for continuity or grounds will not always show up a defective motor. If it does show an open circuit or grounded winding when the motor is tested as outlined, you can be sure the motor is defective. However, the test cord will not show up a condition of a short circuit existing between the starting and running windings or a partial ground.

### Device Shows Up Short Between Windings or Reversed Motor Leads

A simple device which often shows up a short between the windings, or a condition of the motor leads being reversed, can be made with a couple of flash light batteries and flashlight bulb as illustrated in Fig. 4.

With this device, a noticeable difference in the intensity of the light will exist between the application of the probes to the running winding, starting wind-

ing, and both windings. If the motor winding is not defective and the winding leads are properly connected to the motor terminals, the light will be the brightest when the probes are connected across the running winding, i.e., applied to "R" and "C" terminals.

The intensity of the light will be noticeably less when the probes are across the starting winding terminals "S" and "C." And the least intensity will exist when the probes are connected to the outside terminals "R" and "S," putting the resistance of both windings in the circuit.

A much better way of checking resistance, however, is with an accurate ohmmeter. For such checking the more accurate the meter the more dependable such tests become. To be very useful the ohmmeter should be graduated in tenths of an ohm in the range of 0 to 2 ohms. It should have a range or ranges of 0 to 25 ohms if one wishes to check motors throughout the sizes normally encountered in hermetic motor-compressors.

Although it is rather impossible for the serviceman to know exactly what the resistance of the starting and running windings should be for all the different makes and sizes of compressors he might be called upon to service, the following is a general guide which should be helpful:

A. For low starting torque motors the starting winding resistance is usually about seven

to eight times that of the running winding.

B. For high starting torque motors the starting winding resistance is usually three to four times that of the running winding.

C. The resistance read between "R" and "S" should equal exactly the sum of the individual resistances read for the starting winding and the running winding.

D. On three-phase motors the resistances across each of the phases should be identical.

E. The resistance between the motor and frame should be no less than one megohm (1,000,000 ohms). If less than this it may be an indication of failing insulation or excessive moisture in the compressor.

Again, an ohmmeter test is not a positive means for a serviceman to determine whether or not a motor is defective. But if an accurate ohmmeter test does indicate a defect, it will usually be found that the motor is the cause of trouble.

If a motor-compressor will not turn over, merely draws a heavy current and hums for a short time before the overload trips, and all checks show no defective components in the electrical system, the trouble may be a mechanical seizure from shortage of oil or some such cause. To definitely ascertain this, remove the motor-stator cover plate and see if the compressor shaft can be revolved freely.

(To Be Continued)

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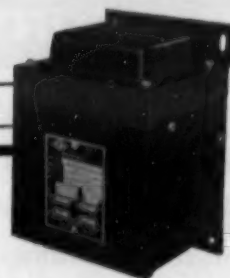
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As a quick and economical method of supplying normal voltage (220, 230 or 240 volts) single phase from available under voltage circuits (197, 208, or 214 volts) this series of transformers will solve many application problems. For example, the installation of air conditioning equipment in an office or commercial building, where only lighting circuit voltage is available may require the installation of a separate circuit connected from two legs of a power line; such connection providing 208 volts single phase. This 208 voltage, not being sufficient to develop full starting torque of the 230 volt single phase motor, may cause the motor to operate constantly on starting windings and this would result in overheating and possible burn-out.

The Boost and Buck series of transformers are essentially 4 winding insulated transformers in which the separate windings are interconnected so as to provide essentially the same voltage tapping characteristics as an auto transformer. In effect the secondary winding voltage is added to the input voltage thus boosting the output voltage 5% or 10% as desired.

Acme Electric Boost & Buck transformers are available in capacities to meet the needs of any installation from 1/4 ton units to commercial types requiring up to 105 KVA electrical capacity. Write for Catalog BB-199.

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## Steam Heat, Chilled Water Cooling, Water Heater, Ceramic Humidifier Combined In Unit for Kansas City Home Project

CINCINNATI — Deering Air Conditioning Co. has recently been awarded a \$1,339,000 contract to provide air conditioning for the "Arrowhead Village" housing development in Kansas City, Kans., the company has announced.

John D. Maultsby, Jr., president of Development, Inc., planners of the development, said the contract was granted to Deering because of the unique design of its "Tri-Pak" unit.

### Performs 4 Functions

The Tri-Pak is said to perform the four functions normally assigned to furnace, cooling unit, hot water heater, and humidifier. It occupies only 6 sq. ft. of space.

In the Tri-Pak, steam created

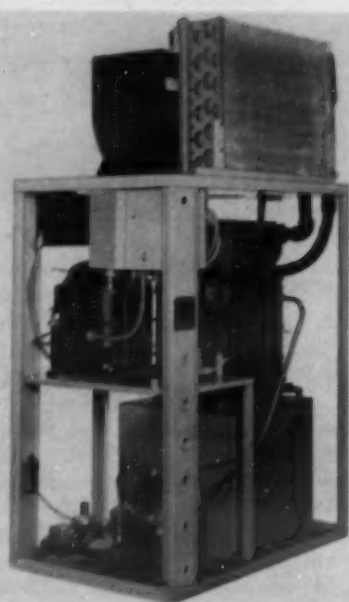
in a safety-sealed boiler rises into coils in the duct system for winter heating. During summer, similar coils cool the home. Hot water is supplied through a copper coil submerged in the boiler.

### Cooling Capacity Of 36,000 B. t. u.'s

Cooling capacity of the Tri-Pak is 36,000 B.t.u. Heating capacity is 120,000 B.t.u., according to the manufacturer. The remote condenser for cooling has a condensing temperature of 123° F. under ASRE conditions.

An automatic humidifier is designed to keep the proper amount of moisture in the air at all times. The humidifiers consist of ceramic absorbers stemming from a glass bowl.

The ceramic cones are sized



"TRI-PAK" unit, developed by Deering Air Conditioning Co., is said to combine four functions normally assigned to furnace, cooling unit, hot water heater, and humidifier.

according to the c.f.m. of air passing over them. The amount of moisture removed from the cones depends on the amount of moisture in the air.

### More Moisture Extracted When Air Has Less Moisture

Thus, the less moisture in the air passing over the cones, the more moisture is extracted from them. Moisture laden air extracts practically none. An automatic condition is created as a result, a company official explained.

One thermostat controls both heating and cooling functions.

Tom Deering, president of Deering Air Conditioning Co., credits James R. Riley, executive vice president of Deering Sales Corp. with writing the record-breaking contract.

The Kansas City project was conceived by Maultsby, a Kansas City architect. He spent two years surveying popular conceptions of what a home should ideally contain—and cost. He determined to design such a home, priced between \$17,000 and \$22,000.

### 700 to 1,000 Homes To Use Unit

A huge, rolling site of 240 acres was purchased on US Route 40 and parallel to the former US 40, only 15 minutes from the heart of town. When completed, the project, which is approximately one mile square, will incorporate schools, churches, shopping center, and 700 to 1,000 homes.

The project will be built around a four-level home, containing 1,320 sq. ft. exclusive of garage, and selling for only \$17,000.

On the lowest level are recreation and utility rooms; next, two bedrooms and bath; next, living, dining, and kitchen; top, two bedrooms and bath, or master bedroom, dressing room, and bath.

Each level is only a few steps above the other. Fifty variations are permitted, as well as choice of three styles: Southern Colonial, Ranch, and a regional adaptation known as "Kansan."

Display models of the homes have been erected.

## Awning-Solar Heat Study Proposed

NEW YORK CITY — A cooperative research program into how much awnings reduce solar heating entering buildings and lessen the required amount of air conditioning capacity and power consumption has been proposed by the American Society of Heating and Air Conditioning Engineers and endorsed by the National Metal Awning Association.

Stanley W. Hoffman, executive secretary of ASHAE, reported that individual members of the metal awning group have already contributed \$4,210.

The Canvas Awning Institute and the National Canvas Goods Manufacturers Association have already contributed toward studies of canvas awnings.

If sufficient funds are made

available soon by the metal awning industry, work can begin this summer at the ASHAE research laboratory in Cleveland, Hoffman indicated.

The metal awning industry is to subscribe \$7,500 at the rate of \$50 to \$500 a company depending on relative volume.

### Weathertron Names 4 Retailer-Wholesalers

BLOOMFIELD, N. J. — Four new G-E Weathertron distributors have been named in Texas.

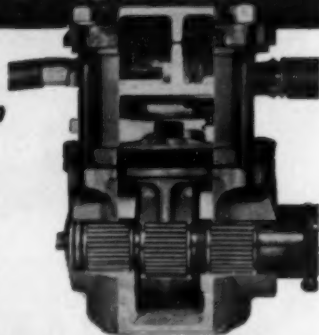
Named as retailer-wholesalers for the General Electric heat pump are Wheeler-Rhodes Air Conditioning Co., McAllen; Austin Air Conditioning Co., Inc., Austin; and Texas General Air Conditioning Co., Corpus Christi.

Kerr Lumber Co., San Antonio, has been named a wholesaler.

## ACE, the quality line for air conditioning and refrigeration

### MODEL 77 Diaphragm Descaling Acid Pump

Descaling compounds can't affect this pump! All parts in contact with compounds are completely acid-resistant. Can be supplied as portable unit with pump and motor mounted on sturdy base and with convenient carrying handles.



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... sized to fit your needs. 1/4 H.P. thru 7 1/2 H.P. Easy to install and compactly built. Advanced features include exclusive baked-on lifetime finish to enhance appearance and resist corrosion, John Crane mechanical seal, and all-bronze one-piece impellers. Continuous duty motor.

Manufacturers representatives and distributors' inquiries invited.



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**HEAT INTERCHANGER**  
Cast aluminum. Inner-Fin construction. No internal joints. Suction line and liquid line are separate tubes. 1/4 to 10 Tons.

**'CIC' CONDENSER**  
Cleanable tubes. Inner-Fins in refrigerant tubes for minimum size and maximum heat transfer. 1/2 to 15 H.P. Also available for marine service.

**heat-x**

## HEAT-X PRODUCTS PROTECT YOUR REPUTATION AS A "QUALITY" CONTRACTOR

Any refrigeration job is only as good as its components. Reliable HEAT-X products, designed and manufactured by heat transfer specialists, insure the quality of your installations. They save you money, too, by cutting down on costly trouble-calls.

### LIQUID COOLERS

Separate refrigerant and water circuits cast within solid aluminum block. No freeze-up damage.



### ICE PLATES

Stainless steel or copper tubing embedded in flat aluminum plate. Capacities to 40 GPH cooling from 80° to 40°.



### 'CR' CONDENSER-RECEIVERS

Cooling coils of copper tubing. Shell of steel pipe. 1/2 to 5 H.P.

**HEAT-X, Inc.**

BREWSTER, NEW YORK





J. G. DeNARDIN



G. I. DUDDY



R. J. WILLIAMS



W. SWANSON

## Mueller Brass Appoints 6 to Field Posts

PORT HURON, Mich. — Appointment of a new district manager and assignment of five new sales representatives for Mueller Brass Co. was announced here recently by A. C. Dappert, Mueller vice president in charge of sales.

New manager of the Denver sales territory is William A. Preininger, who for the past two years has been a sales representative attached to the company's Kansas City office.

Preininger joined the company in 1952 after his graduation from Michigan State university. He was a sales correspondent in the home office before his assignment to the field sales staff.

George I. Duddy was named sales representative attached to Mueller's Cincinnati office, where he will assist Floyd R. Lewis, district sales manager. Until recently, Duddy was with the Chicago wholesale distributing division.

Wayland Swanson has been assigned to the Chicago wholesale distributing division sales office to assist C. A. Dickson, district sales manager. Since joining Mueller in 1953 he has been a sales correspondent in Chicago.

Richard J. Williams will work in the Dallas territory under Norman Cooper, district sales manager. He joined Mueller in 1952 and has been doing production planning, sales promotion, and sales work at the main plant.

John G. DeNardin has been assigned to the Indianapolis office where he will assist Robert Fitzgerald, district sales manager. He joined Mueller in 1951 as a cost estimator and has worked as a sales correspondent in the home office.

### UsAirco Appoints

#### Absorption Cooling & Heating

CHICAGO—Absorption Cooling & Heating has been named a distributor by the United States Air Conditioning Corp., it is announced by R. P. Kelley, general sales manager of UsAirco in Minneapolis.

Headed by Joe Lazar, president, the distributing and contracting firm will handle the entire UsAirco line of residential and commercial air conditioning equipment, it was further stated.

## Long Mfg. Producing Air Conditioning Parts In Diversification Move

DETROIT—Long Mfg. Div., Borg-Warner Corp. has completed major stages of a \$1 million modernization program to ready the division for manufacturing diversification, it was announced.

T. J. Ault, president and general manager of Long, was host to Robert S. Ingersoll, newly-elected president of B-W, and the firm's supervisory board for a tour of the renovated plant at 12501 Dequindre during the annual meeting here.

Long Div. is now branching out into air conditioning, agricultural, construction, industrial, marine, and materials handling fields. New products are being added to the firm's established lines, it was explained.



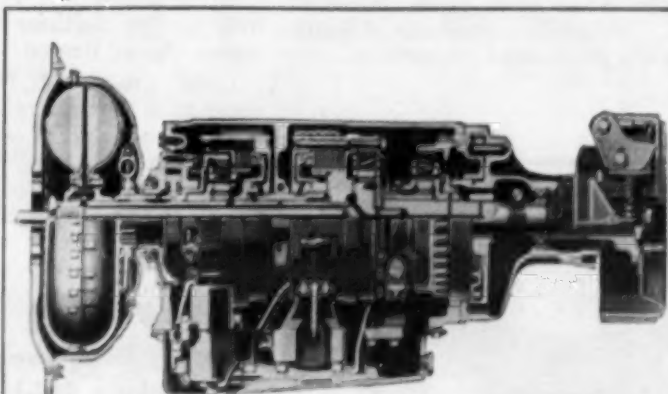
When Mechanical Supply Co., Inc., a newcomer to the refrigeration and equipment, parts, supplies, and wholesaling field in St. Louis, held a "christening" party this spring, they got some help from manufacturers

they represent in the form of special display setups. Above (left) is a display board of Sporlan Valve Co. products, and (right) those of Bush Mfg. Co. The firm was formed by Robert

J. Noland, Charles F. Barmeir, and Charles W. Nunley. Noland and Barmeir have had considerable experience in the supplies wholesaling field, and Noland has been a mechanical contractor since 1933. Peter Erges manages the parts department.



## A MODERN ECONOMY CHAMP that puts extra money in your pocket year in and year out!



Here's one big reason why you save with Chevy... **Hydra-Matic**. And this advanced automatic transmission makes hauling smoother and easier than ever before.

They're the champs of the lightweight class, these new Chevy Pickups, Panels and light-duty Stakes—and that means unsurpassed economy as well as power and performance!

Consider, for example, the economy aspects of Chevrolet **Hydra-Matic** transmission.\* This modern automatic transmission not only gives you the ease of no-shift hauling... it also *saves you maintenance money* because the hydraulic coupling protects universal joints, rear axle gears and shafts, rear tires and engine parts from shock loads.

And the advanced heavy-duty 3-speed\*\* and 4-speed\*\*\* transmissions provided in new Chevrolet light-duty models are moneysavers, too! Their extra-rugged construction is added assurance of dependable operation that keeps costs down.

You'll find there are many such reasons why these new Chevy models are the economy champs! If you're out to save money, see your Chevrolet dealer soon... Chevrolet Division of General Motors, Detroit 2, Michigan.

\*Optional at extra cost in Series 3000 models.  
\*\*Optional at extra cost in all Series 3000 models.  
\*\*\*Std. in Series 3800 models, extra cost option in other Series 3000 models.



# NEW CHEVROLET TASK-FORCE TRUCKS

Anything less is an old-fashioned truck!



# Government Contracts

## SYNOPSIS OF PROPOSED PROCUREMENT

### ARMY

Purchasing Division, Schenectady General Depot, U. S. Army, Schenectady, N. Y. DEHUMIDIFICATION OF WAREHOUSE 11 at Schenectady, General Depot, U. S. Army, Schenectady, New—Job—IFB QM-20-127-56-237—Bid Opening 6 June 56.

Purchasing and Contracting Officer, Fort Stewart, Ga. 1 TON AIR CONDITIONING UNIT, Tower and Pump—1 ea.—IFB 09-076-56-64—Bid Opening 28 May 56.

United States Property and Fiscal Officer for Texas, P.O. Box 5218, West Austin Station, Austin 31, Texas. INSTALLATION OF A 15 TON SUMMER-WINTER AIR CONDITIONING SYSTEM in Bldg. No. 48, Camp Mabry, Austin, Texas—Job—IFB NG-41-292-56-25B—Bid Opening 23 June 56.

Corps of Engineers, Tallahassee District, P.O. Box 2001, Tallahassee, Tenn. DESIGNING AND FURNISHING HEAT EXCHANGERS for the Auxiliary Compressor System in the Gas Dynamics Facility, consisting of four heat exchangers, air to water, 25 to 15 lb/sec at 0.5 to 16 p.s.i.a., 6.8 lb/sec at 60 p.s.i.a., 6.8 lb/sec at 4,200 p.s.i.a., and 106 lb/sec at 4,200 p.s.i.a.; bid sets are available—Job—Inv. No. ENG-40-126-56-59B—Bid Opening 19 June 56.

### NAVY

General Stores Supply Office, 700 Hobbs Ave., Philadelphia 11, Pa. COOLER, DRINKING WATER, Spec. Fed. CO-C-566, Type 1-704 ea.—IFB-156-1707-56B—Bid Opening 11 June 56.

Navy Purchasing Office, 3rd Ave. & 29th St., Brooklyn 32, N. Y. DAMPERS, FOR MECHANICAL EXHAUST VENTILATION SYSTEMS of Engine Spaces, Repair Parts, Master Drawings, etc.—various—IFB-N140-1391-56—Bid Opening 6 June 56.

Office in Charge of Construction, Naval Air Advanced Training Command, Corpus Christi, Texas. PROVIDE 45 TONS AIR CONDITIONING including all ductwork, electrical work, cooling tower, piping, and concrete work—Job—120 days—IFB 1155B—Bid Opening 7 June 56.

### AIR FORCE

Procurement Office, Ethan Allen Air Force Base, Winooski, Vt. REPLACEMENT OF HEATING EQUIPMENT in 35 family quarters at Ethan Allen Air Force Base, Vt.—Job—IFB 43-600-56-84—Bid Opening 6 June 56.

Base Procurement Office, Eglin Air Force Base, Fla. AIR CONDITIONING FOR Danner Service Club Bldg. 21 at Eglin Air Force Base, Fla.—Job—IFB 08-603-56-691B—Bid Opening 14 June 56.

Purchasing and Contracting Office, Stewart Air Force Base, Tenn. FURNISH AND INSTALL AN AIR CONDITIONING SYSTEM in Building Nr 315—Job—IFB 40-602-56-90—Bid Opening 12 June 56.

Base Contracting Office, Whiteman Air Force Base, Mo. AIR CONDITIONING OF BASE OPERATIONS BUILDING 8-35, Whiteman Air Force Base, Mo.—Job—IFB 23-606-56-80—Bid Opening 7 June 56.

Installation of adequate Circuits in Two BOQ's Whiteman Air Force Base, Mo.—Job—IFB 23-606-56-81—Bid Opening 7 June 56.

Purchasing and Contracting Office, Bryan Air Force Base, Bryan, Texas. AIR CONDITIONING HOSPITAL Administration Bldg. T-653, Bryan Air Force Base—Job—IFB 41-628-56-77(B)—Bid Opening 7 June 56.

Purchasing and Contracting Office, Donaldson Air Force Base, S. C. INSULATING HOT AIR DUCTS in furnace rooms of 106 misc. buildings at Donaldson Air Force Base, S. C.—Job—IFB 38-600-56-118—Bid Opening 19 June 56.

### U. S. DEPARTMENT OF INTERIOR

Department of Interior, Bureau of Mines, Collins Ferry Rd., Morgantown, W. Va. INSTALL TWO CONSTANT TEMPERATURE AND HUMIDITY ROOMS, including installation of the room's service utilities and the required equipment to provide the conditions of temperature and humidity. Specs. require inspection of site before submitting bid—Job—IFB 118—Bid Opening 6-11-56.

## CONTRACTS AWARDED THROUGH MAY 25, 1956

Granite City Engineers Depot, Corps of Engineers, U. S. Army, Granite City, Ill. Installation of Air conditioning equipment in Bldgs. Nr. 1 and 11—Job—\$50,860—Authorized Refrigeration Co., 2525 St. Clair Ave., East St. Louis, Ill.

Purchasing and Contracting Office, 475th Fighter Group (Air Defense), Minneapolis-St. Paul International Airport, Minneapolis, Minn. Installing new steam heating system in Hanger P-1, including alterations to the building—(IFB 21-602-554)—Job—\$99,906—Belden-Porter Co., 65 North 17th St., Minneapolis, Minn.

General Services Administration, Region 9, San Francisco, Calif. Furnishing and Installing Evaporative Coolers and Gas Unit Heaters, Pima Indian Reservation, Sacaton, Arizona (49-SF-CR-56-69)—Job—\$16,762—(Contract GS-09B-7010-SF)—Rowe Brothers, 758 West Pima Ave., Coolidge, Ariz.

## Phillips Represents Mueller Climatrol In Toronto

MILWAUKEE—The appointment of Dan Phillips of Toronto, Ont., Can., as metropolitan Toronto salesman for Mueller Climatrol was announced recently by Frank J. Nunlist, Jr., vice president in charge of sales for the company.

Phillips attended the Uni-

versity of Toronto Extension, and has had a total of six years' experience in the heating and air conditioning field, and also did consulting engineering in Canada.

He is a member of the American Society of Heating and Air Conditioning Engineers.

## Glass Fiber Featured In Filter Firm's Float

COLORLESS GLASS-FIBER filter media was used by American Air Filter Co., Inc., Louisville, Ky., to decorate its float with its own AMER-glas media for the Kentucky Derby Festival Parade. The gaily colored float won the first place trophy in the commercial division of the parade. Depicting the "My Old Kentucky Home" theme and featuring Kentucky's favorite commodity — beautiful women — AAF used green media for the grass, bushes, and backside of the doorway; pink, yellow, and blue for flowers; red for the front panel; and white for the side panels. The same glass fiber media is manufactured by AAF for its AMER-glas filters for air conditioning units and furnaces.



## Herman Nelson Div. Gets Gov't Contract

LOUISVILLE, Ky.—The Herman Nelson Div. of American Air Filter Co., Inc., has been awarded a \$2,510,523 Air Force contract for ground portable heaters, it was announced recently.

Major General David H. Baker, director of procurement and production, Air Materiel Command, Wright-Patterson Air Force Base, Ohio, announced the awarding of the contract.

"This is a continuation of contracts with the Air Force for portable heaters which we have been making for the last three years," said George C. Rodgers, manager of Military products.

The portable heaters are used at Air Force bases to heat aircraft engines, cabins, cockpits, hangars, living quarters, and temporary operational buildings. The heaters are designed to operate efficiently at temperatures as low as -65°, it was explained.

The portable heaters are manufactured by AAF's Herman Nelson Div. in Moline, Ill.

## Rodgers Engineering Post Goes to Breese

DALLAS — Appointment of Robert A. Breese as sales promotion manager of Rodgers Engineering Co., north Texas distributor for Mueller Climatrol heating and air conditioning equipment, has been announced by Fred A. Rodgers, president. Breese is a graduate of Southern Methodist university.

## Georgia Names Williams To Warm Air Heating Contractors' Examiners

ATLANTA—W. H. Williams, a member of the DeKalb Air Conditioning and Heating Board, recently was sworn in by Gov. Marvin Griffin to become a member of the State Board of Examiners of Warm Air Heating Contractors, it was reported here.

Williams, who will fill the unexpired term of the late Lawrence F. Kent, recently directed the revision of the City of Atlanta's heating and ventilation code.

Other members of the state board are John G. Mauldin, Atlanta; E. M. Copeland, Jr., McDonough; W. H. Raymond, Columbus, and W. L. Mingle-dorff, Jr., Savannah, according to the report.

## Bryant Names McElwain Southeast Sales Mgr., Good to Dallas Post

INDIANAPOLIS — Bob McElwain has been appointed southeast regional sales manager for Bryant, producer of home heating and cooling equipment, and Robert R. Good has been named regional representative in the company's southwest territory.

The appointments were announced by Howard L. Clary, Bryant director of sales.

McElwain has his headquarters in Atlanta. His business experience includes five years as district sales manager for A. O. Smith in St. Louis and three years as sales manager of Quick Heat Div. of Sinclair Refining Co. in St. Louis.

A veteran of four years' service, McElwain handled combat cargo as a first lieutenant in the Air Force. He is a graduate of Washington university at St. Louis, earning a business administration degree in 1945.

Good has his headquarters in Dallas.

He was regional representative in the construction market for Reynolds Metals in both the Dallas and Detroit areas for five years. In other Dallas affiliations, he was sales engineer for Mustang Sheet Metal Mfg. for one year and chief engineer for American Window Co. for two years.

After World War II he was a field service engineer for A. M. Byers Co. of Boston.

Good graduated from University of Pittsburgh in 1940 with a bachelor of science degree in chemical engineering. He spent four years with the Air Force in aircraft maintenance, holding the rank of captain.

## Handy Tube Bender Smoothly Bends any pipe or Tubing 3/8"-1 1/8" O.D.



Just a twist of the wrist assures perfect, even bends — right angle, any angle, U and offset. Save enough on ONE job to pay for your HANDY BENDER.

See your supply house or write for free folder today.

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### CO-AXIAL CONDENSERS

The NEWEST design in water-cooled refrigerant condensers. Used by major equipment manufacturers because of—these SELLING ADVANTAGES:

- Use 35% less water
- Cost reduced 30 to 40%
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**FAST  
DEPENDABLE  
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## PREST-O-LITE Trade-Mark Leak Detector Outfit



Fully adjustable gas regulator, 12 1/4 ft. of hose, precision handle, leak detecting stem, and suction hose complete this valuable kit.

You can quickly locate the most minute leaks of halide refrigerant gases with this handy, air-acetylene, leak detecting outfit. An extra-long hose lets you work unhampered in those hard-to-get-at places. And a shutoff valve and built-in pilot flame control in the handle give you real convenience and economy. Ask your LINDE jobber for a demonstration. Or write LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, N. Y. In Canada: Union Carbide Canada Limited, Toronto.

**GET IT FROM YOUR  
LINDE JOBBER**

The terms "Prest-O-Lite" and "Linde" are registered trade-marks of Union Carbide and Carbon Corporation.



## Refrigeration Problems And Their Solution

By Paul Reed

For Service and Installation Engineers



### Comparison of Refrigerants 12, 22

(Continued)

First, let us make a quick review of the thermodynamic properties of these refrigerants 12 and 22, for their differences determine to a great extent, the selection of these two refrigerants for use in refrigeration equipment, the suitability of such equipment for various purposes in the field, and even the installation and service methods.

#### CHARACTERISTICS WITH MINOR DIFFERENCES

To start with, let us consider some of the thermodynamic properties shown in Table 1, that are relatively unimportant in comparing these two refrigerants, so that we can get them out of the way.

One is the critical pressure. For 12 it is 582 p.s.i.a.; for 22 it is 716 p.s.i.g. Both are a great deal above any condensing pressure that will be encountered even in hot climates, using air-cooled condensers, so we would never have occasion to operate near the critical pressure.

Some of the characteristics in which 12 and 22 differ are so slight that they are relatively unimportant in a comparison of the two refrigerants.

The same is true of the critical temperatures: 232.7° for 12 and 204.8° for 22. There is not enough difference to be of consequence, and both are high enough to be well above air-cooled condensing temperatures even in hot climates, or with very warm condensing water.

The freezing temperatures are far below any temperatures for which either of these refrigerants are used, so we can also

dismiss them from our comparison.

The viscosities of 12 and 22, either in liquid or vapor form, are so nearly the same that we need not consider them.

#### TOXICITY AND FLAMMABILITY

There are no significant differences as affect safety. They are both in Group One of the ASA-B9.1 Safety Code for Mechanical Refrigeration, and the difference between Groups 6 and 5A of Underwriters is so slight as to have no practical consequence. Both are classed as non-flammable.

In its normal state, 12 is classed as non-toxic, and although 22 is classed as slightly toxic, there have been no reported cases of its having caused any trouble from this source.

In the presence of a flame or an incandescent surface at about 900° F. or above, either 12 or 22 can decompose into some very highly toxic and dangerous gases, but apparently, there is no significant differences in the amount of relative toxicity of the products of decomposition of 12 and 22.

#### SUCTION PRESSURES

One of the most important properties of any refrigerant is its boiling temperature at atmospheric pressure, zero pounds per square inch gauge. As shown in Table 3, for 12 it is -21.6° F., and for 22, -41.4° F. In any refrigeration equipment it is preferable to operate the evaporator at a pressure somewhat above atmospheric.

There is less likelihood of leaks on the low-pressure side of the system, and if there is a leak, it is not as harmful to lose a little refrigerant as to allow

air and moisture to enter the system.

This was one of the main reasons for the adoption of 22 in freezers and other low temperature installations just after World War II, and it still remains the chief reason in most low temperature applications. For example, the evaporator of an open self-service case can be operated as low as -40°, and still run at a suction pressure above atmospheric pressure.

For this same evaporator temperature, the suction pressure for 12 would have to be approximately 11 in. of mercury vacuum. Any unit using 12 operating on an evaporator temperature lower than -21.6° F. must run on a vacuum.

At all evaporator temperatures, the suction pressures for 22 run higher than for 12. Thus, for evaporator temperatures above -21.7 p.s.i.g., the advantage is with 12, for there is less likelihood of low-side leaks, and this is particularly true in the case of units having open type compressors using shaft seals.

#### CONDENSING PRESSURES

Now let us compare 12 and 22 on the basis of the condensing pressure, or head pressures as they are more commonly called. We need head pressures high enough to overcome friction and static heads of the liquid refrigerant to the evaporator. Anything above that simply adds to the possibility of leaks, and is of considerable importance from a cost and

		12	22
Critical Pressure	P.s.i.a.	582.0	716.0
Critical Temperature	°F	232.7	204.8
Freezing Temperature	°F	-252.0	-256.0
Viscosity			
Vapor at 0° F in Centipoises		.0113	.0113
Liquid at 80° F in Centipoises		.255	.232

TABLE 1

TABLE 2  
Comparative safety characteristics of 12 and 22.

	12	22
ASA B9-1 Code Group No.	1	1
Underwriters Group No.	6	5A
Flammability	No	No
Toxicity—Normal State	No	Slight
Toxicity—Decomposed	Yes	Yes

TABLE 3  
Pressure-temperature characteristics of 12 and 22 at evaporator temperatures.

	12	22
Boiling Temperature 0 p.s.i.g.	°F -21.6	-41.4
Evaporator Pressure at -40°	p.s.i.g. 11.0*	.6
Evaporator Pressure at 0°	p.s.i.g. 9.3	24.1
Evaporator Pressure at 40°	p.s.i.g. 37.0	69.0

\*Inches of Mercury Vacuum.

TABLE 4  
Comparison of head pressures of 12 and 22 at four typical condensing temperatures.

	12	22
Condensing Pressure at 80°	p.s.i.g. 84.1	145.0
Condensing Pressure at 100°	p.s.i.g. 116.9	197.9
Condensing Pressure at 120°	p.s.i.g. 157.1	262.6
Condensing Pressure at 140°	p.s.i.g. 205.5	338.0

weight standpoint. High pressures are still low enough that sheet metal is practical. For air-cooled units, the differences in head pressures widen considerably as the ambient temperatures go up. This requires heavier construction and considerably increases the likelihood of leaks. Thus, as far as head pressures are concerned, the advantage is with 12.

(To Be Continued)

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AIR CONDITIONING UNITS  
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## Servicing Automobile Air Conditioners

BY C. DALE MERICLE

This is the last instalment describing the Artic-Kar auto air conditioner and the concluding article in this series.

Makes previously discussed have included A.R.A., Frigikar, Automotive Air Conditioning, Pivot, Novi, Oldsmobile, Buick, Pontiac, Chevrolet, Ford, Nash, Mark IV, Mobil-Aire, Lincoln-Mercury, Chrysler, and Plymouth.

### ARTIC-KAR (2)

Capitol Refrigeration & Mfg. Co.  
3922 Kallock Dr.  
Dallas, Texas

#### SERVICE HINTS

##### Evacuating System

Use of a good vacuum pump to evacuate the system is recommended by the manufacturer. An alternate method is to run the car engine and compressor to evacuate the system. If the latter is done, a length of tubing from the discharge service port plug should be placed in a glass containing refrigeration oil.

When bubbles cease to show in the oil and the compound gauge reads 28 in., the system may be considered properly evacuated.

A small amount of "Freon-12" should be admitted then to permit leak testing.

##### Charging System

Artic-Kar systems, which employ "Freon-12" as the refrigerant, are charged in the conventional manner.

Correct charge is 4½ lbs.

##### Operating System

Normal suction and discharge pressures of Artic-Kar systems are given in the accompanying table. The data in this table is based on the car engine's running at the equivalent speed of approximately 30 miles per hour with a fan placed in front of the condenser to simulate actual road conditions.

Average working temperatures of Artic-Kar systems, the manufacturer says, fall in the range of 12° to 35° refrigerant temperature in the evaporator.

##### Trouble Diagnosis

A. Little or no refrigeration with engine and blowers running.

Symptoms and possible causes are:

1. Low suction pressure and hissing noise in evaporator case indicate shortage of refrigerant, probably due to leak, which must be repaired.

2. If compound gauge registers vacuum, moisture is freezing needle of expansion valve. Evacuate system and replace dehydrator.

3. Very little air volume with blowers running means evaporator is clogged with lint or blocked with ice. If latter, thermostat is set too cold.

#### Artic-Kar Operating Pressures

Evap. Temp. (°F.)	Air Temp. Off Coil (°F.)	Suction Pressure (p.s.i.g.)	Discharge Pressure (p.s.i.g.) at Various Ambients				
			70°	80°	90°	100°	110°
2	22	10	104	119	137	157	178
12	32	16	109	125	142	160	180
20	40	21	113	130	147	165	186
30	50	28	115	130	149	167	187
35	55	32	118	135	152	171	192
40	60	36	122	139	157	176	196
44	64	40	126	144	161	180	200

4. Cool or frosted suction line means either a partially plugged expansion valve, or expansion valve is opened too far. Turn expansion valve adjustment to left.

5. Low suction pressure with full refrigerant charge indicates expansion valve is partially plugged or closed too far.

6. High suction pressure despite proper refrigerant charge may indicate faulty compressor valves, which would have to be replaced.

7. High head and suction pressures together may be the result of overcharge of refrigerant.

9. High head pressure and normal suction pressures with proper charge can result from

shorted.

E. Blowers won't operate.

Possible causes are:

1. Fuse blown.
2. Blower motor defective.
3. Faulty wiring.

F. Unit noisy.

Possible causes are:

1. Shortage of oil in compressor.
2. Loose or worn drive belt.
3. Loose or vibrating parts in evaporator assembly.
4. Loose setscrew in blower wheel.

(The End)

### Allin Mfg. Moves Into New Quarters

CHICAGO — Allin Mfg. Co., producer of "Liquid Eye" indicators and refrigeration products, recently moved into a new completely air conditioned plant and general office building, according to Albert Wittlin, president.

Providing about five times the former manufacturing space, with larger office space, the company believes greater order processing efficiency, together with streamlined shipping facilities will result from the move. Productive capacity was increased tenfold, it was noted. "The move was necessitated by unusual sales growth," emphasized Wittlin.

"Quality is rigidly controlled at all manufacturing stages and final testing operations are under close supervision," he added.

Engineering and development divisions have been expanded to give closer attention to customer needs as new product and application requirements arise.

### Kramer Announces Giant-Sized Unicons

TRENTON, N. J. — Availability of new giant-sized "All-Season Unicons" has been announced by the Kramer Trenton Co. here. Kramer officials noted that the growth in the development of their remote-type air-cooled Unicon condensers since their introduction into the industry in 1937 now makes the unit operationally feasible for installations beyond 200 tons.

The manufacturer states that one of the outstanding features of these large units is the unusually low operating noise level. Even when there is a multiple installation with a number of units at one location, the noise is no problem, it is stated.

Each unit has two fans belt driven from a single motor. A unique motor mounting is used to permit easy belt adjustment. The units are completely factory assembled and do not require field assembly.

The giant-sized Unicons are also available for air-to-air heat pump application.

When used with the patented Kramer "All-Season Winterstat," an adequate minimum head pressure is automatically maintained all the way to the expansion valve regardless of the outside air temperature. It eliminates any seasonal or daily adjustments, according to the company officials.

### WRDW-TV Addition To Be Air Conditioned

AUGUSTA, Ga. — WRDW-TV has begun construction of a 48-ft. addition to its plant in North Augusta. Air conditioned, it will be a one-story brick building harmonizing with the present structure, according to the management.

### Hospital Gets Cooling

RIPLEY, Miss. — A contract for \$39,987 for air conditioning the Tippah County hospital, has been awarded to Shelby-Skipwith, Inc., Memphis.

#### Series To Be Published As Manual

All articles which have appeared in this series, covering 17 different makes of automobile air conditioners, will shortly be available in handy manual form.

Watch the NEWS for publication date and price.

air in system or restricted flow of air through condenser.

9. High suction pressure combined with low head pressure, suction line sweating to compressor, and correct charge may be the result of rubber hose manifold by-passing liquid refrigerant into suction side.

(The two following complaints apply to systems having the solenoid by-pass valve arrangement.)

10. High suction pressure and line from solenoid valve to suction tee is hot indicates either leaking by-pass valve or defective thermostat.

11. Low head pressure combined with normal suction pressure and correct charge usually indicates slipping drive belt.

B. Clutch won't operate (clutch models only).

1. Compressor doesn't run because of no current to clutch due to blown fuse, defective relay, or broken wiring.

2. Clutch slipping may result from (a) loose connections, (b) on models with brushes due to dirty brushes, defective brush-holder or misalignment, (c) on non-brush models by magnet ring being too far from field.

C. Compressor runs constantly.

Possible causes are:

1. Refrigerant charge lost.
2. Clutch relay sticking.
3. Thermostat won't open due either to being set too cold, or defective, or bulb not being placed 4 in. down into fins of evaporator coil.

D. Pilot light won't go out.

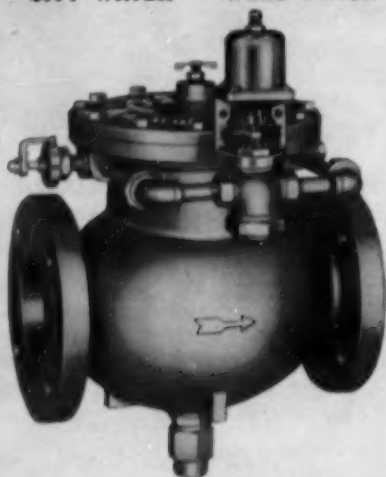
Possible causes are:

1. Compressor runs constantly.
2. Wires to pilot light

## LARGE F-12, F-22 AMMONIA WATER REGULATORS

COOLING TOWERS — CITY WATER — WELL WATER

HIGH WATER CAPACITY  
•  
LOW PRESSURE DROP  
•  
MODULATING V-PORTS  
•  
BRONZE TRIM  
•  
MANUAL OPENING STEM



Size and Port	GPM Flow Capacity for various water pressure drops			Nominal H.P.
	10 PSI	30 PSI	50 PSI	
1½" - 6V	42	72	92	30, 40
1½" - 8V	53	90	120	50
2" - 6V	65	114	147	60
2" - 10V	76	132	167	75
3" - 6V	132	225	280	100
3" - 8V	165	280	370	150
4" - 6V	220	370	480	.....

\*Nom. HP based on 1½ Gpm/HP @ 20 Psi drop

Unlike a direct bellows powered regulator, this large pilot-operated regulator will provide full flow of water within a condenser pressure rise of 10 lbs.

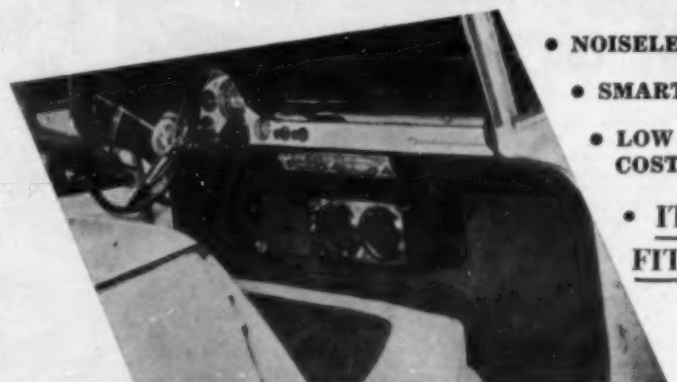
REFRIGERATING SPECIALTIES COMPANY

2004 W. LEXINGTON ST. CHICAGO 12, ILLINOIS



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- LOW COST
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## Future of Home Conditioning Systems--Amana-Deepfreeze--

(Concluded from Page 1, Col. 2)

tractors, Denges revealed in opening the technical conference.

On the strictly practical side, revised thinking on air quantities for year-round residential air conditioning may develop out of this conference. Some engineers inferred that on the basis of some data contained in the technical presentations, residential systems could be satisfactorily balanced for year-round operation at the greater air volumes considered necessary for summer cooling provided a lower temperature difference through the furnace were employed for heating.

### DISCOURAGE INTEREST IN ATOMIC REACTORS

It was Dr. Finn J. Larsen, director of research for Minneapolis-Honeywell, who launched the verbal missile aimed at knocking out mushrooming interest in atomic reactors for home heating.

Such a reactor, he admitted, could be contained in a 5-gal. vessel, but "the Atomic Energy Commission would have to give you the fuel, which it isn't likely to do; the minimum price for small reactors is about \$1 million, and concrete shielding necessary around the reactor would more than fill up the average basement and be 15 ft. thick on top. There's the problem, too, of getting rid of 'ashes,' which are highly radioactive."

Atomic reactors might, however, be used eventually to power neighborhood electric generating systems, and possibly the heat from such reactors could be piped to nearby homes.

A test installation of solar heating which operated in a Boston area home from 1949 through 1955 gave "very encouraging" results, handling an average of 80% of the seasonal load, revealed Prof. A. L. Hesselschwerdt of Massachusetts Institute of Technology. Another test house is scheduled for construction soon, he said.

"It has been found that to produce a solar energy system that will be competitive, from an economical standpoint, with conventional systems will require much more research and development work, particularly with regard to collector design," Prof. Hesselschwerdt declared.

"Moreover, the design of such a system requires the closest cooperation between architect, engineer, and contractor," he added. "Items such as ductwork, or piping, which are im-

portant in conventional systems become very critical in systems of this type, and unless properly designed, the cost of circulating the fluid [for heat transfer] can sometimes overbalance the gain in using solar energy.

### HEAT PUMP FUTURE

"Although the heat pump has so far not made great progress in the air conditioning market, it can be expected that its performance will be improved and the initial cost lowered," indicated Dr. S. F. Gilman, who heads a research section for Carrier Corp.

"These factors, coupled with the favorable load factor for the utilities, make the electric heat pump a potentially strong contender for the residential heating market," Dr. Gilman contends.

The heat pump can expect competition from gas air conditioning, however, implied R. H. Combs of Oklahoma Natural Gas Co., who reviewed current developments in this field.

"It is not difficult to predict that gas air conditioning is just getting ready to claim a larger share of the large potential market of residential, commercial, and industrial cooling," Combs declared. "The American Gas Association is sponsoring 13 research projects this year covering several types of gas units, including a heat pump."

Balancing of systems for year-round air conditioning in one and two-story homes was discussed, respectively, by J. R. Wright and D. R. Bahnfleth, of the University of Illinois.

Another speaker from the same university, Prof. M. K. Fahnestock, told the conference that "in relatively uniform environments most sedentary or slightly active healthy women and men are comfortable the year-round when the dry-bulb temperature is within the range of 73° to 77° F. and the relative humidity is within the range of 25 to 60% with air velocities of about 25 f.p.m."

Heat gain in air conditioning ducts was discussed by C. W. Nessell of Minneapolis-Honeywell, chairman of the association's field investigation committee; pressure losses in fittings and floor outlets used in perimeter systems by M. V. R. Rao, of the University of Illinois, venting a furnace by R. B. Engdahl of Battelle Memorial Institute, and a review of how research is used in developing the association's manuals was presented to L. G. Miller.

(Concluded from Page 1, Col. 5)

acquires selected factory equipment from the Deepfreeze plant at North Chicago, Ill., which will be installed at Amana's headquarters here as part of an expansion and mechanization program now in progress. No real estate is involved in the Deepfreeze transaction.

Amana Refrigeration was started 22 years ago by Foerster as a two-man operation in the corner of a small cabinet shop, here in the Amana Colonies, home of the Amana Society.

A private corporation today, Amana Refrigeration claims to be the largest producer of food freezers, and also produces freezer-plus-refrigerators, built-in freezers and refrigerators, and room and central air conditioners.

### Motor Products Will Sell Deepfreeze Plant

NEW YORK CITY—Motor Products Corp., late this month, will auction off the plant of its Deepfreeze Appliance Div. in North Chicago, Ill. and also plant equipment not acquired by Amana Refrigeration under its purchase agreement with Motor Products.

Plans for the auction were announced by R. J. Nixon, Motor Products president, following a special meeting of stockholders here last week. At the meeting, directors were authorized to sell present company assets and to acquire new ones at their discretion.

Nixon also announced that late in August, Motor Products will put up for sale its Mack Ave. plant in Detroit. He said several prospective buyers had shown an interest in the plant, which has been making ventilators and interior and exterior trim for Chrysler and Ford.

Operations at the Deepfreeze plant were halted March 31 after running for two and a half years at a loss. High operating costs and heavy advertising expenses necessary to keep an appliance plant operating at a profit "amid cutthroat competition" were listed by Nixon as reasons for the losses sustained by the Deepfreeze Div.



H. L. Travis



W. L. Jeffrey

### Kelvinator Names--

(Concluded from Page 1, Col. 4) Chapman from vice president and general manager of Kelvinator to vice president in charge of operations for the corporation.

### JEFFREY WITH KELVINATOR MORE THAN 25 YEARS

Jeffrey, formerly vice president in charge of sales, now assumes over-all management of the Kelvinator Div. With Kelvinator for more than 25 years, Jeffrey has held many executive positions in the sales and advertising departments.

He joined the company in 1930 following graduation from Evansville, Ind., college with a degree in business administration. He became manager of domestic advertising and sales promotion in 1936. In 1938, he was promoted to assistant sales manager for the Leonard appliance division.

During World War II, Jeffrey was assigned to government contracts at the company's Grand Rapids plant. In 1944, he was named Leonard sales manager, a position he held until 1952 when he became sales manager for all Kelvinator refrigeration and range products.

In 1954, Jeffrey was named manager of sales planning in charge of all product planning and development of current and new appliances, as well as merchandising and selling techniques. In April, 1955, he was elected vice president in charge of sales.

### TRAVIS WITH KELVINATOR SINCE 1943

Travis, formerly general sales manager, becomes vice president in charge of sales. With Kelvinator since 1943, he has spent more than 25 years with major manufacturers in the appliance field. Much of his work has been in the development of ap-

pliance dealers in all types of markets.

Travis entered the appliance business in 1927 with Frigidaire. During the following 15 years he held nearly every type of executive field sales position with the company.

In 1943, he joined Kelvinator as manager of metropolitan markets, and in 1947 was named western regional manager. In 1952, Travis was promoted to manager of retail distribution with responsibility for development of the Kelvinator dealer organization. He was named general sales manager in April, 1955.

Chapman, formerly vice president and general manager of the Kelvinator Div., will continue also as chairman of the appliance division's operating committee, Romney said.

Chapman has more than 20 years' experience in manufacturing and production management, beginning with his student days at the University of Detroit.

Chapman joined the Nash Motors Div., then part of Nash-Kelvinator Corp., in 1937 as plant engineer in charge of the company's main Kenosha, Wis., automobile producing operation.

He was named production manager for the corporation in 1951, and was appointed manager of manufacturing for both automotive and appliance divisions in 1953.

He was elected vice president and general manager of the Kelvinator Div. in October, 1954.

### Admiral Purchases Raytheon Radio-TV Manufacturing Div.

CHICAGO—Admiral Corp. purchased the television and radio manufacturing division of Raytheon Mfg. Co., it was announced recently.

Terms of the sale were not disclosed.

However, Ross Siragusa, Admiral president, said the company was financing the transaction with its own capital and that no stock transfer or outside financing was required.

To be operated as Belmont Div. of Admiral, the purchase includes two plants in the Chicago area, all plant equipment, and an inventory of finished television and radio receivers.

## AIR CONDITIONER SALES MANAGER

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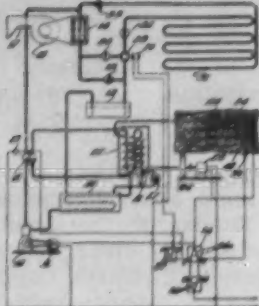
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# PATENTS

## Week of December 6 (Concluded)

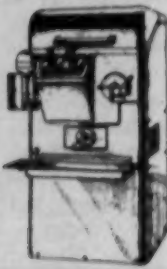
**2,726,067. AIR CONDITIONING SYSTEM.** George D. Wetherbee, Chicago, Ill.; and Eugene H. Hammond, Berwyn, Ill.; said Wetherbee assignor to said Hammond. Application Oct. 13, 1951. Serial No. 251,186. 5 Claims. (Cl. 257-3.)



1. Apparatus for temperature conditioning an enclosure, comprising, a compressor to pressurize a gaseous refrigerant, a temperature conditioner for an enclosure comprising a condenser to liquefy said gaseous refrigerant, thereby to yield thermal energy for heating the enclosure, an expansion valve to expand the liquefied refrigerant, an evaporator to receive the expanded refrigerant, means to supply thermal energy from an earth reservoir beneath the surface of the ground to said evaporator, a thermostat responsive to variations in temperature in the enclosure and being in control of said apparatus, a reversing valve means actuated by said thermostat to reverse the direction of flow of refrigerant, whereby the pressurized gaseous refrigerant is liquefied in the evaporator and the earth reservoir is recharged with thermal energy, a second evaporator comprising an atmospheric heat absorber and circulating means including a valve actuated by said thermostat and arranged to selectively by-pass the reversely flowing refrigerant around said temperature conditioner and through said second evaporator to absorb atmospheric thermal energy for recharging the earth reservoir whenever the temperature in the enclosure is at a predetermined reference level, said reversing valve means and said valve of said circulating means being concurrently actuated by said thermostat, and a control means responsive to variations in the thermal energy potential of said reservoir in parallel with said thermostat for conditioning said thermostat to actuate said valve means and said valve whenever recharging of the reservoir is required.

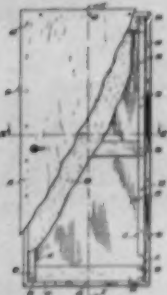
### DESIGNS

**176,944. MILK SHAKE MACHINE.** Joseph Miro, Chicago, Ill., assignor to Mills Industries, Inc., Chicago, Ill., a corporation of Illinois. Application Sept. 22, 1954. Serial No. 22,395. Term of patent 7 years. (Cl. D9-3.)



## Week of December 13

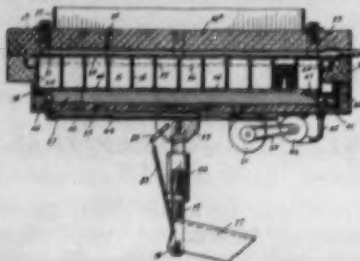
**2,726,484. WALK-IN COOLER DOOR.** Cleo M. Lingle, Hickman Mills, Mo., assignor to Lingle Refrigerator Co., Inc., Kansas City, Mo., a corporation of Missouri. Application April 27, 1953. Serial No. 351,071. 1 Claim. (Cl. 30-35.)



A walk-in cooler door comprising an elongated plywood panel; a pair of spaced metallic strips extending longitudinally of said panel, said strips being L-shaped in cross section, presenting a pair of legs, one leg of each strip lying flatly against and having a plurality of fasteners securing the same to one face of the panel, the other leg of the strips being perpendicular to said one face of the panel; a member of transverse cross pieces

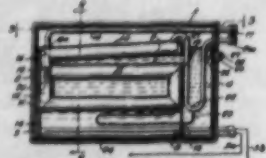
spanning the distance between said other legs of the strip and attached thereto, and overlapping said one leg of the strips; a metal pan enclosing said strips and said crosspieces and provided with sides and ends perpendicular to said face of the panel; a continuous outturned flange on said sides and ends; a sealing element between the flange and said one face of the panel; fasteners securing the flange and the sealing element to said panel; fasteners securing the sides against said other leg of the strips and to said cross-pieces; and a blanket of insulation filling the pan.

**2,726,514. ICE MAKING MACHINE.** Thomas C. Capehart and Dormon B. McShan, Indianapolis, Ind., assignors to John R. Bayston, as trustee, Icecrafters (Liquidating) Trust, Van Nuys, Calif. Application Aug. 29, 1951. Serial No. 244,151. 6 Claims. (Cl. 62-106.)



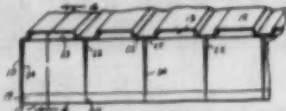
1. In an ice cube making machine, the combination of a freezing unit comprising a plurality of cells normally open at the bottom, a closure plate for said unit movable to close and seal said unit during a freezing cycle, means for introducing into said cells a liquid to be frozen into ice cubes, means for inducing a stream of liquid over the surface of said closure plate directly under the open bottom of said cells and transversely thereof, said stream moving at sufficient velocity to create a turbulence and agitation of the liquid in the cells for washing and carrying off impurities from the ice being formed therein, and a series of baffles formed on the upper face of said closure plate projecting into the stream of liquid for increasing the turbulent and agitating effect thereof.

**2,726,515. SELF-CONTAINED HEAT EXCHANGE PLATES WITH ELECTRIC RESISTANCE.** Herman W. Kleist, Hollywood, Ill., assignor to Dole Refrigerating Co., Chicago, Ill., a corporation of Illinois. Application Oct. 9, 1953. Serial No. 385,126. 13 Claims. (Cl. 62-126.)



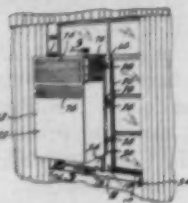
1. In a heat exchange unit for completing the vaporization of unvaporized refrigerant returned from an evaporator in the course of defrosting, a housing including plate walls sealed together to form a gas-tight container, a body of heat storing material within and partly filling the container, a boiler element extending into said material, said boiler element being in the form of a closed loop having an upper arm extending from one end of said loop and overlying the loop with at least the arm extending above the body of the heat storing material and inlet and outlet connections for the boiler including an outlet duct extending from an end of the arm and an inlet duct extending to the closed loop, and a heating element for heating the heat-storing material said heating element including a tube extending into the heat storing material.

**2,726,516. EVAPORATOR FOR PRODUCING ICE CUBES AND METHOD OF MAKING SAME.** John R. Bayston, Van Nuys, Calif., assignor to John R. Bayston, trustee, Icecrafters (Liquidating) Trust, Van Nuys, Calif. Application June 23, 1953. Serial No. 364,793. 4 Claims. (Cl. 62-106.)



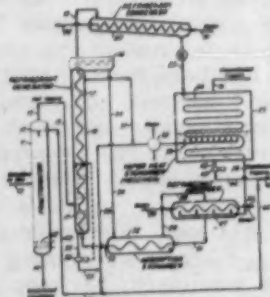
1. An evaporator unit comprising an assembly of ice cube forming cells, each closed at one end to provide a top wall surface and open at the other end, a portion of the walls of each cell adjacent its open end being in abutting engagement with those of the adjacent cells, a shell surrounding and embracing said assembly of cells having side walls in abutting relation with the adjacent open end portions of the outer series of cells, said shell including an integral top plate extending over the closed top walls of said cells, a series of channels formed in said top plate extending in parallel relation over in-line cells and in communication with the space defined by the side walls of said cells to provide refrigerant passages, and means for securing said top plate to the respective cells and said cells to each other in sealing relation.

**2,726,518. CASEMENT WINDOW MOUNTED AIR CONDITIONER.** Richard L. Brugler, Trotwood, Ohio, assignor to Chrysler Corp., Highland Park, Mich., a corporation of Delaware. Application April 24, 1953. Serial No. 350,941. 9 Claims. (Cl. 62-129.)



1. An air conditioning device adapted to be installed in operative relation with a casement window in a room, said casement window having a window frame defining an opening and a section hinged on said frame for rotation outwardly about a vertical axis from a closed to an open position, said air conditioning device comprising a casing of substantial height relative to its width and adapted to be mounted wholly on the inside of said window frame with a back wall in registry with said window opening, said casing including partition means defining a lower, an intermediate and an upper superimposed compartment, a compressor mounted in the lowermost of said compartments, an air cooled condenser coil mounted in the intermediate compartment and extending across the back wall of the intermediate compartment, a V-shaped evaporator coil mounted in the upper of said three compartments with the apex of the coil in close proximity to the back wall, said compressor, condenser and evaporator being connected in refrigerant flow relationship, the back wall of said casing being provided with openings providing a fluid flow communication between the outside air and said lower compartment and between the outside and said intermediate compartment, said partition means having an opening providing a fluid flow communication between said lower and intermediate compartments, fan means mounted in said casing and adapted to induce a circulation of air from the outside, through said lower and intermediate compartments to the outside, said casing having openings providing inlet and outlet openings for said upper compartment in fluid flow communication with said room and fan means mounted in said upper compartment in the right of the V-shaped coil and operable to induce a flow of room air over said evaporator and into said room.

**2,726,519. ABSORPTION-COOLED VAPOR CONDENSER SYSTEM.** Frank D. Squier, Park Forest, Ill., assignor to Standard Oil Co., Chicago, Ill., a corporation of Indiana. Application Sept. 23, 1954. Serial No. 457,971. 3 Claims. (Cl. 62-175.5.)



1. The method of effecting partial condensation of a mixture of hot hydrocarbon vapors, which method comprises introducing said hot hydrocarbon vapors into the generator of a hermetically sealed absorption refrigeration system whereby heat from said vapors liberates refrigerant from absorbent in said system and the vapors are partially condensed, removing condensate and uncondensed vapors from said generator, cooling condensate removed from the generator, maintaining a body of said cooled condensate in direct contact with the lower part of the expansion coils of the refrigeration system, and finally contacting the uncondensed vapors with expansion coils of the refrigeration system by passing said uncondensed vapors from the top of the refrigerant generator upwardly in contact with the upper part of said expansion coils for effecting further condensation.

**2,726,601. INTERNALLY FINNED TUBE.** Hugh L. Gaddis, Cleveland Heights, Glenn W. Myers, North Ridgeville, and Oral S. Welsh, Elyria, Ohio, assignors to Brown Plintube Co., Elyria, Ohio, a corporation of Ohio. Original application Sept. 18, 1950, Serial No. 125,418. Divided and this application May 26, 1953. Serial No. 290,064. 6 Claims. (Cl. 122-32.)



1. An internally finned heat exchanger tube comprising a metal tube and a plurality of separately formed open

channel metal fin members extending longitudinally within said tube, each having a pair of fin portions and a base, the outer edges of said fins being bonded to circumferentially spaced zones on the inner surface of the tube, the inner surface of the tube being exposed between said zones, said fin portions extending substantially radially inward therefrom, each edge of the base of each channel member being in contact with an edge of the base of an adjacent channel member to provide a self-supporting, hollow center structure, said channel members being in contact with each other only at said edges, there being longitudinal passages on both sides of each fin portion.

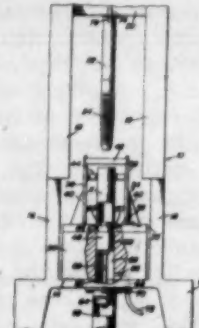
**2,726,622. FLEXIBLE DUCT.** Addison B. Conroy, Long Beach, and Alvin E. Hewitt, La Habra Heights, Calif., assignors to Aeroduct, Inc., South Gate, Calif., a corporation of California. Application Nov. 7, 1952. Serial No. 319,196. 7 Claims. (Cl. 133-65.)



1. A flexible duct comprising an elastic body of rubberlike material, a reinforcing fabric within said body distributed substantially uniformly throughout length of said duct, and additional reinforcing fibrous material in the end section of said duct providing a generally tapered wall section of substantially increased thickness at the end of the duct, said end section being expandable to facilitate attachment to a rigid nipple of larger diameter than the internal diameter of said duct.

2. The method of making a plurality of flexible ducts having walls adjacent the ends thereof thickened by an expandable tapered, reinforced band with maximum thickness at the extremity, said method comprising winding on a long mandrel, layers of rubberized fabric, applying bands of expandable reinforcing fibrous material to the resulting ducting, said bands being spaced at intervals substantially equal to the final length of the desired ducts, curing the resulting assembly and cutting the ducting transversely at the approximate mid points of said bands.

**2,726,704. APPARATUS FOR SIZING TUBING.** Henry C. Fischer, Aberdeen, Md. Application May 23, 1953. Serial No. 289,705. 9 Claims. (Cl. 153-80.5.) (Granted under Title 35, U.S. Code (1952), sec. 266)



1. Apparatus for sizing tubing comprising a base, a support mounted on said base and adapted to support one end of a piece of tubing in a substantially fixed position, a circular opening in said support, a reciprocable locator mounted on one side of and in alignment with said opening, means normally holding said locator in a position in which it projects through said opening to thereby position the end of the tubing contacting the support, a rest positioned on the other side of said support for supporting the side of said tubing, a ram having a cylindrical trailing portion and a tapered leading portion mounted for reciprocation in alignment with said opening, reciprocating means constructed and arranged to thrust said ram through said opening and then withdraw said ram back through said opening and the tubing, means for causing said locator to move away from said support after said ram has entered the tubing, and a stop so positioned as to engage the tubing and strip it from the punch as the punch is withdrawn.

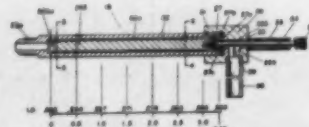
**2,726,795. REFRIGERATOR TYPE MILK CONTAINER AND DISPENSER.** Frances R. Bullock and Thomas L. Billock, Leavittsburg, Ohio. Application May 21, 1953. Serial No. 356,474. 1 Claim. (Cl. 223-466.)



For use in the usual shelved storage compartment of a home refrigerator, a one gallon capacity rectangular milk storage and dispensing container in the form of a box having flat bottom, top, side and front and rear end walls, all of transparent material, said top wall embodying a relatively large rearward main section and a complementary small auxiliary forward section,

said sections providing selectively usable lids having their principal marginal edges resting atop the respective side walls and front and rear walls, said sections having depending marginal flanges fitting telescopically into the milk space and frictionally contacting the interior surfaces of said side, front and rear walls, exteriorly disposed horizontally elongated hand-grips joined to upper portions of said front and rear end walls, a push-button pet cock communicatively joined to said front wall adjacent said bottom wall for dispensing milk into a drinking glass or similar receptacle, and a transverse parting strip located between the forward end of the main section and rearward end of the auxiliary section, said strip being integral at its respective ends with the upper edge portions of said side walls, having its top flush with the top surfaces of said sections and its longitudinal edges rabbeted and defining support ledges for adjacent cooperating overlapping edges of said main and auxiliary sections.

**2,726,941. CARBONATED BEVERAGE FAUCET.** Buckley Crist, Muncie, Ind., assignor, by means assignments, to Glascock Brothers Mfg. Co., Muncie, Ind., a corporation of Indiana. Application Oct. 6, 1952. Serial No. 313,315. 12 Claims. (Cl. 251-120.)



1. A faucet for dispensing a pre-mixed carbonated beverage comprising a body member having transversely arranged intersecting openings therein, a hollow barrel communicating with one of the openings extending from the body member and adapted to be connected with a source of carbonated beverage under pressure, said body member having a valve seat formed therein at the terminus of said barrel member and ahead of the other opening in the body, a movable valve member positioned within the barrel member for cooperation with the said valve seat, said movable valve member having an extension projecting upstream from the valve seat and constructed so as to fit the interior of the barrel relatively closely at its upstream end so that pressure liquid from the source is caused on entering the barrel to flow in a relatively thin sheet about the extension, and said members being so shaped and proportioned one to the other that the sheet of fluid is caused to thicken at an exponential rate toward the valve seat, and means to actuate the valve.

**2,726,914. HOME FREEZER.** Richard H. Allen, St. Louis, Mo., assignor to Avco Mfg. Corp., Cincinnati, Ohio, a corporation of Delaware. Application June 23, 1951. Serial No. 233,200. 4 Claims. (Cl. 312-223.)



4. In combination in a home freezer including a cabinet formed to define a frozen food storage compartment and a horizontally disposed lid providing access to the compartment, means connected to the lid for supporting a variable weight of frozen food, hinges secured to the cabinet and the lid permitting movements of the lid about a horizontally disposed hinge line, a releasable latch securing the lid to the cabinet remote from said hinges, yieldable means constantly urging the lid to open, and a fluid metering dash pot secured to the cabinet and to the lid for restraining opening movements of the lid while offering no substantial resistance to closing movements.

## Week of December 20

**2,727,361. REFRIGERATOR SYSTEM AND ASSEMBLY.** Evans T. Morton, Galesburg, Ill., assignor to Admiral Corp., Chicago, Ill., a corporation of Delaware. Application Dec. 6, 1952. Serial No. 324,475. 6 Claims. (Cl. 62-3.)

1. A multi-temperature refrigerator having an outer shell defining a back and sides and at least one door defining a front, a moist cold food storage compartment having a secondary refrigerant conduit system partially surrounding said compartment and extending therebeyond, a freezer chest having a primary refrigerant conduit system partially surrounding said chest and extending in back thereof, said compartment and said chest and the

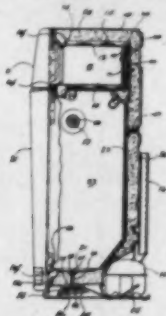
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# PATENTS

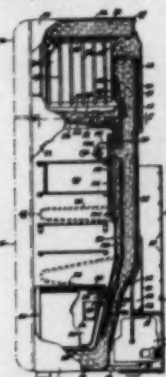
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associated conduit systems being mounted within said shell to provide removal of any or all of said com-



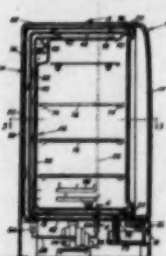
partment, chest, or conduit system from the front of said refrigerator without disturbing said shell.

**2,727,362. MULTIPLE TEMPERATURE REFRIGERATING APPARATUS.** Lawrence A. Philipp, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application Oct. 12, 1951, Serial No. 215,052. 5 Claims. (Cl. 62-6.)



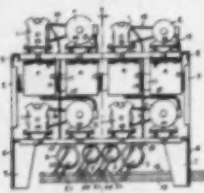
1. Refrigerating apparatus comprising a primary cooling means, a secondary volatile refrigerant circuit having a refrigerant condensing portion in heat exchange relationship with said cooling means and having a heat absorbing portion, a valve responsive to pressure in said circuit interposed between the outlet of said condensing portion and the inlet of said heat absorbing portion for controlling the flow of refrigerant through said condensing portion, said circuit having a quantity of refrigerant therein of a larger liquid volume than the volumetric capacity of said condensing portion, and a conduit positioned in the secondary system between the inlet of the secondary condenser and the outlet side of said heat absorbing portion and between the inlet of said heat absorbing portion and the outlet side of said valve.

**2,727,363. REFRIGERATOR INSULATOR UNIT.** Walter W. Penner, Orchard Park, N. Y., assignor of forty-nine per cent to Henry P. Niemczyk, Cincinnati, Ohio. Application May 19, 1953, Serial No. 356,073. 4 Claims. (Cl. 62-102.)



1. A refrigerator construction comprising an outer open front casing, a hollow wall glass insulating shell disposed in said casing and an inner shell disposed within said insulating shell, said insulating shell being spaced from said inner shell and providing a free air space therebetween, refrigerating coils disposed within said free air space said inner shell having elongated openings therein adjacent the lower end thereof communicating the interior of the shell with said free air space for air circulation therebetween.

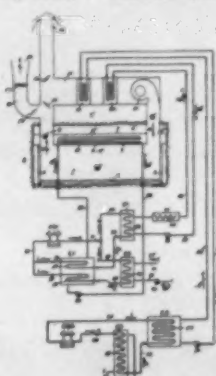
**2,727,364. REFRIGERATOR COMPRESSOR STAND.** Arthur Perez, Niles, Mich., assignor to Tyler Refrigeration Corp., Niles, Mich., a corporation of Michigan. Application June 14, 1954, Serial No. 436,273. 5 Claims. (Cl. 62-115.)



1. In combination, a stand, a plurality of refrigerator compressor systems mounted thereon, each system includ-

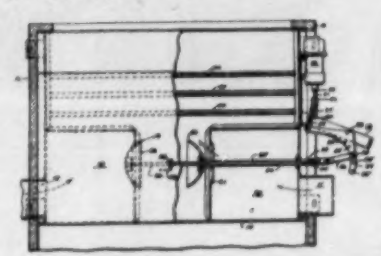
ing an electric motor, a compressor, a condenser, water cooling means for the condenser, electric control mechanism for operating the motor, and electric safety devices, the compressor and condenser of each system being interconnected, all of the electric mechanisms, including the motor, of each system being interconnected, a single electric supply conductor connected with the electric mechanisms of all of said plurality of systems and the water cooling means of the condensers of all of said systems being connected to a common single water supply conductor.

**2,727,365. AIR CONDITIONING SYSTEM FOR SUBTERRANEAN WORKSHOPS.** Axel Fredrik Rosell, Djurs-holm, near Stockholm, Sweden. Application April 15, 1952, Serial No. 232,506. Claims priority, application Sweden April 23, 1951, 9 Claims. (Cl. 62-129.)



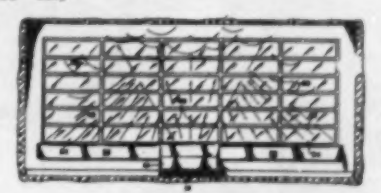
1. A cooling and air conditioning arrangement for a room located in a subterranean cavity comprising a casing forming the ceiling, walls and floor of said room spaced from the adjacent walls of said cavity, means for supplying conditioned air to said room and means for radiant cooling of said room and the space between said casing and said cavity, said radiant cooling means comprising cooling coils embedded in said casing.

**2,727,454. AIR DISTRIBUTING UNITS.** William C. Jones, Medford, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application Oct. 1, 1951, Serial No. 249,085. 3 Claims. (Cl. 98-38.)



1. An air distributing unit comprising a relatively long and relatively narrow casing, means including the bottom and one end of said casing forming a relatively large cold air plenum chamber extending a substantial distance into said casing, means including the bottom and the opposite end of said casing forming a relatively large warm air plenum chamber extending a substantial distance into said casing, said chambers having relatively small air inlets and having spaced apart inner walls having aligned, relatively small air outlets having a common axis therein, a pair of dampers movable within the space between said inner walls for opening and closing said outlets, said casing having a warm and cool air mixing chamber extending the length and width thereof above said plenum chambers, and having an air outlet above said mixing chamber, and means including means interconnecting said dampers for simultaneously moving said dampers along said axis.

**2,727,455. METHOD AND APPARATUS FOR AIR CONDITIONING AND VENTILATING SYSTEMS.** Samuel W. Miller and John W. McElgin, Philadelphia, Pa., assignors to John J. Nesbitt, Inc., Philadelphia, Pa., a corporation of Pennsylvania. Application April 14, 1953, Serial No. 348,772. 6 Claims. (Cl. 98-38.)



1. In an air conditioning system of the nature described; a unit ventilator having a blower therein and an opening for the discharge of blown air into the room being conditioned, heat exchanger means between said blower and said opening, and ducts communicating with said unit between said heat exchanger means and said opening and extending laterally from said unit, and jet openings spaced along the top of said ducts, said jets directing streams of air therethrough so as to converge at a point on the ceiling

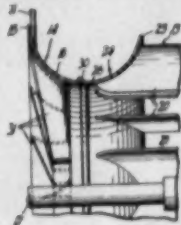
vertically above the unit ventilator, the relative resistance to airflow through said opening and through said jet openings being such that about 65 per cent of the air from the blower passes through said opening and about 35 per cent thereof passes through said jet openings.

**2,727,456. ADJUSTABLE AIR DIFFUSERS.** Charles Davies, New Rochelle, N. Y.



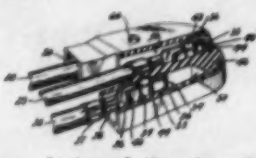
1. In a diffuser, a spiralform diffusing element all of whose convolutions are inclined at substantially the same oblique angle to the axis of the spiral, said element being formed of a single spiral strip whose longitudinal edges are defined by a spiral cut in an initially flat blank, said cut conforming substantially to an Archimedean spiral whereby the width of said strip is substantially uniform throughout its extent, said strip having its longitudinal margins angled out of the plane of the strip to provide stiffening flanges, the flange along the inner longitudinal margin lying substantially parallel to the axis of the spiral, the flange along the outer longitudinal margin lying substantially transverse to the spiral axis.

**2,727,680. CENTRIFUGAL FAN.** Richard D. Madison, East Aurora, Howard C. Burgin, Buffalo, Walter B. Elliot, Orchard Park, and Robert D. Robson, Buffalo, N. Y., assignors to Buffalo Forge Co., Buffalo, N. Y.



1. A centrifugal fan comprising a housing formed with an inlet eye having an annular wall of substantially quadrant shape when cut by a plane passing through the diametrical center of said fan, a shaft concentric with said inlet eye, a fan wheel rotatably disposed within said housing and mounted upon said shaft, said wheel having a substantially flat disk, a plurality of blades carried by said disk and extending axially toward said inlet eye and inwardly from points near the outer periphery of said disk, said blades terminating in inlet side ends, said blades being curved outwardly from said shaft and rearwardly with regard to the direction of rotation of said wheel and having inner and outer edges substantially parallel to each other and parallel with said shaft, a shroud ring carried on the inlet ends of said blades, said ring having an annular wall of substantially quadrant cross section when cut by a plane passing through the diametrical center of said wheel, said blades terminating in axially extending inner edges spaced radially from the axis of said wheel and coincident with a cylinder having a diameter substantially less than the minimum diameter of said shroud ring, the inlet edges of said blades terminating short of the inlet edge of said shroud ring, said blades being so inclined that a plane passing through their inner and outer edges will be tangent to a cylinder smaller in diameter than the minimum diameter of said shroud ring, and the quadrant-shaped wall of said inlet eye and the quadrant-shaped wall of said ring being fixed relative to each other to present an inner surface formed by the assembled parts, whereby a substantially continuous surface of semicircular shape is provided for the smooth flow of air through the inlet eye and into the fan wheel.

**2,728,060. REFRIGERATING APPARATUS.** Ralph W. Doeg, Detroit, Mich., assignor to American Motors Corp., Detroit, Mich.



1. In a device of the character described the combination with a non-conducting member having an elongated slot and an off-set portion extending into said slot, an electrical conductor having a terminal clip secured on one end thereof for insertion into said slot, said terminal clip having a main body portion and a movable leg portion formed with said main body portion, said clip being insertable in said slot until said movable leg portion engages in locking relation with said off-set portion to prevent withdrawal of said clip from said slot, and a laterally directed opening leading from said slot for the insertion therethrough of an electrical conducting element for embracement by said main body portion and said leg portion.

## Recold Names Evans Houston Distributor

HOUSTON, Texas—F. J. Evans Engineering Co. has been named exclusive distributor in the Houston trade area for all air conditioning products of Refrigeration Engineering, Inc., manufacturer of air conditioning and refrigeration equipment marketed under the Recold brand name.

Announcement was made by Hy Jarvis, president of Refrigeration Engineering, Inc., Los Angeles.

D. M. Mills is manager of the Houston Div. of the Evans company which has main offices in Birmingham, Ala. Houston branch is located at 2103 Crawford St.

## To Cool Arkansas Bank

JONESBORO, Ark. — The Farmers State Bank has started a complete remodeling of its existing building which will include a complete air conditioning system.

## CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words, 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words, 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addressees count as five words, other address by actual word count. Please send payment with order.

### POSITIONS WANTED

SALES ENGINEERING service specializing in refrigeration field with proven record, can guarantee sales of component parts (by reliable companies) suitable for application to air conditioning and refrigerating equipment—New England, New York, Penn., New Jersey, Del. Maryland. BOX A5541, Air Conditioning & Refrigeration News.

EXECUTIVE DESIRES greater responsibility—25 years' broad engineering and manufacturing experience—air conditioning and heating products—Resume available. BOX A5552, Air Conditioning & Refrigeration News.

### POSITIONS AVAILABLE

AIR CONDITIONING sales and application engineer also heating and ventilating estimator wanted by old established Carrier engineering contractor in fast growing metropolitan area. Excellent opportunities. Compensation commensurate with ability. Please give details of experience and references. Enclose photograph. All replies confidential. JACKSON & BLANC, 1970 Columbia St., San Diego 1, California.

AIR CONDITIONING project engineer. Los Angeles area. Responsible for design, testing, layout, etc. Experienced in application of air conditioning to residential forced air heating desirable. Degree required. \$12,000 or more for exceptional qualifications. Outstanding benefits. Replies confidential. Applicants not obligated. McKEAND COMPANY, Management Consulting, 727 West 7th Street, Los Angeles 17, California.

MAN THOROUGHLY experienced in the sales of commercial refrigeration to head sales department of old established commercial refrigeration manufacturer. Must be experienced in establishing dealers, distributors and contract sales. Contact C. A. Marvin, PERCIVAL REFRIGERATION DIVISION IOWA PAINT MANUFACTURING COMPANY, Boone, Iowa.

MANUFACTURER'S REPRESENTATIVE to sell special items of commercial refrigeration, which will be in items for established dealers. Territory, Michigan, Indiana, Midwestern or Southwestern states. THE C. SCHMIDT COMPANY, 1712 John Street, Cincinnati 14, Ohio.

REFRIGERATION MECHANICS by New Jersey manufacturer of production freezing equipment (frozen food & ice cream) openings for field men (metro New York area) and for factory, Newark area. Year-round employment. Higher than union wage scale. All replies confidential. BOX 1543, 221 W. 41, New York 36, N. Y.

WANTED SALES Engineers: New Jersey manufacturer specializing in production freezers, double contact pressure plate (hydraulic) walk-in, reach-in, freezers, coolers, etc. Requires manufacturers' representatives with knowledge low temperature application; will also consider applicants without such knowledge if presently calling on frozen food and ice cream industry. All replies in strict confidence. BOX 1544, 221 W. 41 New York 36, N. Y.

### EQUIPMENT FOR SALE

AJAX ELECTRIC ICEMAN—Complete new parts stock available. Immediate delivery. Many prices under factory list. Write for price list. AJAX PHILADELPHIA, INC., 3617-23 Lancaster Ave., Philadelphia 4, Pa.

ARTICAIRE AIR conditioning equipment 2, 3 and 5 ton packaged water chillers, air or water cooled. Direct expansion air conditioning systems 2, 3 and 5 ton, air or water cooled, self contained and remote types. Write for literature and prices. ARCCO, MANUFACTURERS AGENTS, INC., Merchandise Mart Bldg., 2201 Grand Avenue, Kansas City, Missouri.

SERVICEMEN'S THERMOMETERS: Mercury filled with pocket cases, range -60° to plus 160° F. Mfg. by Taylor and G. M. Price \$10.00 per dozen postpaid. H. L. BOGGERSS & SONS, Liberty, Missouri, P. O. Box 137.

4 EACH 40-TON G. E. compressors complete with base, 40 h.p. motors, filters and pulleys. 3 each 40-ton evap. cooling coils with 4 - 40-ton evap. cooling condensers (coil only). Used equipment, guaranteed first class condition. Will sacrifice for \$2,000.00 f.o.b. Columbia, S. C. BRANDT'S INCORPORATED, 1709 Two Notch Road, Columbia, S. C.

CONVERTERS (100) — GENERAL ELECTRIC—"D.C. to A.C." were used in General Electric refrigerators—all electrically O.K.—Will accept reasonable offer on entire lot.—F.O.B. warehouse New York. CITY-WIDE REFRIGERATION CO., 246 Cherry Street, New York.

FOR SALE: 1-6 1/2 x 6 1/2 Vilter machine, serial #A-431961 and one 9 x 9 York compressor, serial #28980. Both machines complete with electric motors, 220 volt, 3 phase, 60 cycle. 1—Sundh Electric Panel Board with starters and controls; 1—temperature recorder; 1—brine circulating pump; 4-1 1/2 x 3" double pipe condensers. Both machines are now in operation and can be inspected. Will sell together or separately. FIVE TOWNS REFRIGERATION CO., INC., 3 Lawson Avenue, East Rockaway, L. I. New York.

NEW SELF contained Kesco automatic condensate water disposal pumps for air conditioners ice cube bins; at your local wholesaler. Available in 10 and 20 foot heads.

NEW YORK, Abco Refrigeration, 1615 Second Ave.

MT. VERNON, Eastern Supply, 521 East Third Street

SYRACUSE, Gould-Farmer Co., 1020 W. Genesee Street

WHITE PLAINS, County Seat, 111 Central Ave.

NEWARK, N. J., Tesco Distributors, 78 Boston Street

DAYTON, OHIO, W. H. Kieffaber Co., Refrigeration Dept.

SACRAMENTO, CALIF., Associated Refrigeration, 1717 Eye Street

SEATTLE, WASH., Refrigerative Supply, 204 W. Republican

TAMPA, FLORIDA, Leo S. Rosage Co., 1546 Franklin Street

HIGHLAND PARK, MICH., J. M. Ober, Inc., 55 Oakman Blvd.

Distributors write to KESCO PRODUCTS CORP., Springfield Gardens 13, N. Y. for sample pump and literature.

AIR CONDITIONING value: 3 h.p. hermetic compressor F-12 230V, 1/phase HD200, 2 h.p. air cond. evaporator 23 1/2" L x 16" H x 3 1/4" W, 2 h.p. air cond. condenser 24" L x 24" H x 4 1/2" W. Also included 3 ton F-12 T. X. Valve & dual pressure safety cutout switch. Complete matched component kit as described \$179.50. Freight prepaid anywhere in the continental U. S. A. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

### MISCELLANEOUS

"SEALED UNIT Rebuilding-Basic Tools & Methods"—an instructive copyrighted manual giving complete details on economically equipping your shop to handle hermetic rebuilding. Exclusive trade secrets unavailable elsewhere. Mail postcard for descriptive folder. H. W. CUSTER, P. O. Box 98, Center Line, Michigan.



## Mack Dispute--

(Concluded from Page 1, Col. 4)

were said to be proceeding at both the local level, and also at "top level" of officials in the recently merged AFL-CIO unions. However, the steamfitters were said to be in no mood to compromise, feeling that the work involved in making the installation could only rightfully be assigned to them.

The dispute flared up without warning when the installing crew of the Home Master Sales Co., Westfield, N. J., arrived at the Mack plant to install 180 tons of packaged air conditioning, and a cooling tower.

When the plant maintenance crew of some 100 workers protested the right of the dealer's men to make the installation, the remainder of the plant work force of some 1,200 UAW members joined the maintenance men in a one-day strike. The steamfitters left without making the installation.

steamfitters and millwrights' group were injured in the fights, in which lengths of pipe and chain were used as weapons.

The sub-contractor said that he had talked with high officials of the plumbers and steamfitters union in Washington and had been assured that contact would be made with the riggers' international president to decide what kind of a plan can be put into effect.

### Garceau Resigns as York Commercial Advertising Mgr.

YORK, Pa.—John S. Garceau has resigned as advertising and sales promotion manager, Commercial Div., York Corp., effective June 15.

Garceau said he would take a vacation in the early part of the summer, after which he would announce his future plans. No replacement has been named by York at this time.

## M-H Estimates 1 of 8 New Homes To Have Central Units In '56

BOSTON — Minneapolis-Honeywell Regulator Co. estimates that one out of every eight new homes built this year will have central air conditioning, according to Paul B. Wishart, president.

Addressing the National Federation of Financial Analysts' Societies at a recent meeting here, Wishart said his company believes there will be 435,000 central air conditioning units operating in American homes by the end of 1956, compared with only 20,000 units five years ago.

Minneapolis-Honeywell expects to sell four times as many thermostatic controls for residential air conditioning installations this year as it did in 1955, he stated.

## Fire Razes Howard Crosley, Bendix--Boiler Bldg. But Production Moves

PHILADELPHIA — A fire that demolished the boiler building in the plant of the Howard Refrigerator Co. here has not affected production schedules, Albert Fogel, president, announced recently.

Fogel said the fire broke out at approximately 8:30 p.m. on May 25. It was concentrated within the boiler building and adjacent storage areas.

"Quick action by the local fire department as a result of a two-alarm signal effectively retained the fire and prevented it from spreading into the production area," Fogel said.

"The source of the fire was the result of outside cause."

(Concluded from Page 1, Col. 3)

to concentrate our sales and advertising efforts on our own full line of manufactured products. We are not going to keep something in the line just for the sake of saying we have it. If a product cannot make a profit it should not be in the line."

A Crosley spokesman said that Crosley will not renew its contract with Fedders-Quigan Corp., which makes air conditioning units for Crosley, when the contract expires in July.

He added, "We won't be back in the air conditioning business until we make our own units."

### Bids To Cool Bldgs.

NEW ORLEANS—Gulf Engineering Co. was the low bidder on air conditioning eight administration buildings of the Public Low Rent Housing Project.

## Steamfitters-Riggers Row at Job Injures 10

GRAND BLANC, Mich. — A union jurisdictional dispute over construction work involving steamfitters, riggers, and millwrights' unions, broke out in violence here, with 10 men injured in a riot between union members at the plant site.

Court action was expected to be taken against some of the workers involved in the rioting.

### Agreement Lack on Crafts Caused Violence

The sub-contractor on the job, which is part of the work in converting a General Motors tank plant to civilian production, said that the violence had flared up because of a failure on the part of unions to agree on which crafts should do certain work. Said this sub-contractor:

"We have been doing all of the plumbing, steamfitting, and ventilation work on the project. The dispute arose between the steamfitters and riggers over hydraulics and tanks. Until the day of the fight half of the work was done by riggers, half by steamfitters, because union heads had been unable to agree which should do the job."

### No Agreement, So Union Heads Let Boss Assign Work

"The day before the fight, the union heads had told me to go ahead and assign the work as I saw fit, because they couldn't reach an agreement. I decided the work should be done by the steamfitters, but the riggers insisted on going ahead with the hydraulic work."

### Steamfitters 'Escort' Riggers from Plant

That precipitated the fight. According to accounts of the fracas, the steamfitters first went through the plant in mobs and "escorted" the riggers out of the plant. The following day the riggers returned with reinforcements from Detroit, some 700 strong, and drove the steamfitters—and millwrights—out of the plant. There was some resistance and 10 of the



## ROYAL-AIRE a distinctive conditioner featuring UNARCO "pump-down" control system

It is doubtful that any air conditioner can match the efficiency and beauty of the UNARCO ROYAL-AIRE. This all-new conditioner provides "just right" cooling comfort, adding distinction to any setting.

Oversize cooling coils . . . accessible, hermetic motor-compressor units . . . and the exclusive UNARCO "pump-down" control system, which prevents compressor damage . . . are but a few outstanding features of the ROYAL-AIRE line.

Available in five capacities (3 to 15-ton) the ROYAL-AIRE is balance-engineered! This insures

full cooling capacities and quiet operation under all conditions, producing a pleasurable climate and atmosphere for any size room.

The ROYAL-AIRE is eminently suited to comfort-cool dining rooms, taverns, drug stores, clothing stores, and offices . . . to cool wherever the ultimate in efficiency and long life is desired. Address the Air Conditioning Division for descriptive literature.

Union Asbestos & Rubber Company  
332 So. Michigan Ave., Chicago 4, Ill.



Ask about Dyna-Pac featuring both economy and efficient long life. Another packaged unit by UNARCO (R), also pre-wired and pre-piped for easy installation. 2-, 3-, 5-ton models, water- or air-cooled!